17

WESTERHUS

NILS-GUSTAF GEJVALL

WESTERHUS

MEDIEVAL POPULATION AND CHURCH IN THE LIGHT OF SKELETAL REMAINS

karlmenn ſkulu liggia ȝiri ſunnan kirkiu en konor ȝiri nordan.

"Men shall lie south of, and women north of the church"
(Early Eidsivathings-Ecclesiastical-Law)

KUNGL. VITTERHETS HISTORIE OCH ANTIKVITETS AKADEMIEN

PUBLISHED WITH A GRANT FROM
THE LÄNGMANSKA KULTURFONDEN

HÅKAN OHLSSONS BOKTRYCKERI
LUND 1960

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Preface

The skeletal material that is presented in this book can be considered unique in a number of respects. For the anthropologist and demographer it offers a glimpse into a series of generations of a population at the beginning of the Christian period in what then comprised a comparatively remote, extreme northern territory. To the social historian it is of special value, partly because the burials cover the beginnings, flowering and decline of a highly remarkable church of an antique type and associated with both Uppsala and Nidaros, and partly because certain peculiarities of the predominant burial rite, as revealed by the anthropological investigation, can be related to both oral and literary tradition.

Never before in this country has a group of skeletal material come to light that is at once as extensive and as many-sided as ours from Westerhus[1]. Hence the reason for our choice. The chapters that follow, however, treat of only a few of the many problems posed by the material. The author thus regards the present work primarily as a material publication to which are appended comments on a selected number of specific problems, and hopes at a future date, as a sequel to these results, to enter into a wider and deeper study of the Västerhus skeletons, dealing especially with the question of special morphological traits and heredity, which here, for reasons of time and space, can receive only superficial consideration.

The scientific investigation of human skeletal material from excavations or the opening of graves goes by the name of archaeological or classical anthropology. The best known and most active specialists in this field in Sweden are professors G. Retzius, C. M. Fürst, G. Backman and his successor to the Chair of Anatomy in the University of Lund, professor C.-H. Hjortsjö.

Contributions of outstanding importance to historical anthropology have also resulted from the meticulous investigations of the interred remains of Swedish royal persons of olden times carried out by the professor and Director of the Institute of Anatomy in the University of Göteborg, B. E. Ingelmark.

Hjortsjö, more than any other, has succeeded in inspiring new life into Swedish archaeo-anthropology, and besides a series of important anthropological publications one of his contributions was the foundation in 1948 of the Swedish Expedition for Archaeological Anthropology (S.E.A.A.) as a permanent organ for research in this field. I have to thank him for a stimulating, open and generous collaboration over many years, that has been of invaluable assistance in every possible way.

While a student at the Institute of Zoology in the University of Lund between 1932 and 1936, I had the privilege of working under its then Director, professor B. Hanström. In putting this

[1] Modern Swedish = Västerhus; earlier also Vesterhus, Vesthus or Vestrus.

volume in his hands I wish to show my gratitude for his inspiration as a teacher and the personal attention he always accorded his pupils.

I also hold in grateful memory my tutor in animal osteology in the same Institute, professor H. Berlin.

Dealing with problems of morphology of the highest-developed of all primates this book will mainly fall within the boundaries of zoology. From that special point of view its contents has been read by the professor of Anatomy at the Institute of Zoology of the University of Lund, E. Dahl, and I am happy to express to him my gratitude for kindly devoting so much of time to this task.

The study of skeletal materials is becoming increasingly used as an auxiliary science for archaeological studies and cultural history, and one of the aims of this book is to explore to what extent the results of the anthropological investigation could be linked to contemporary culture. The Director of the Historical Museum of the University of Lund, professor of Archaeology H. Arbman has kindly read the manuscript with special reference to this aspect of its contents.

The practical work involved in this investigation has taken place in the Osteological Section of the Museum of National Antiquities in Stockholm, the formation of which section was due to the initiative and influence of my former chiefs, the previous Directors General of the Office and Museum of National Antiquities, Sigurd Curman and Martin Olsson. I welcome this opportunity of extending my respectful thanks to them and to my present chief Director General B. Thordeman, who has followed my work with constant interest and furthered it in many ways.

The study of excavated skeletons is not infrequently of service to the medical sciences, especially palaeopathology. The present essay spotlights the large company of specialists who ought properly to be consulted in the investigation of such material. Without expert medical opinion none of the observed phenomena can be correctly assessed or interpreted. For their scrutiny of my attempts to describe the pathological changes and damage resulting from external injury on the skeletal remains, and for their diagnoses and a number of X-ray pictures, I am greatly indebted to professor emeritus F. Henschen of the Karolinska Institute, Stockholm, and K. Lindblom, professor of Radiological Diagnosis at the Karolinska Hospital.

To the professor of Anatomy in the University of Oslo, J. Torgersen, I wish to express my sincere thanks for demonstrating to me his extensive medieval skeletal collections and discussing my own results in relation to them.

To docent med. dr. Torsten Romanus of the Karolinska Institute, who has followed my work throughout the growth of this book, I owe my warmest thanks, and I am indebted also to med. lic. Arne Sollberger of the same Institute for advice on the statistical treatment.

Docent, fil. dr. B. Lundman of Uppsala, the only official university representative of physical anthropology in the Scandinavian countries, has devoted more than 30 years of his life to exhaustive and often brilliant works, textbooks as well as own studies of Swedish and foreign regional anthropology. I owe him many thanks for his open and helpful collaboration through many years.

I acknowledge my gratitude to many present and former colleagues in the Central Office of National Antiquities and the Museum of National Antiquities for their help and advice at every stage in the development of my work, and for bringing to my notice valuable references in the literature. In particular I must name antikvarie Iwar Anderson, 1st antikvarie fil. dr. Bertil

Berthelson, fil. lic.Ragnhild Boström, bibliotekarie, fil. lic. Ulla Ehrensvärd, fotograf Sören Hallgren, teckningslärare Bengt Händel, professor Sven B. F. Jansson, fotograf Nils Lagergren, antikvarie fil. lic. Lars Olof Lagerqvist, professor Carl-Axel Moberg of Göteborg, fil. lic. Rune Norberg, överbibliotekarie fil. dr. Wilhelm Odelberg, 1st antikvarie fil. dr. Nils-Ludvig Rasmusson, 1st antikvarie doc. Monica Rydbeck, museilektor, doc. Dagmar Selling, professor Armin Tuulse, antikvarie fil. dr. Per Olof Westlund and rustmästare Gösta Wicksell.

To the excavators of the Västerhus chapel ruins, intendent fil. lic. Carl Gustaf Blomberg of Nyköping and intendent fil. lic. Nils Lagerholm of Göteborg, I am indebted for important verbal information concerning details of the plans and finds.

It also gives me pleasure to express my special thanks to the Director of the Uppsala Institute for Philology and Folklore, professor Dag Strömbäck, to the Director of the Nordiska Museum and Skansen in Stockholm, professor Gösta Berg, and to fil. lic. Oloph Odenius of Uppsala for invaluable help with source material and other important evidence. I am also grateful to professor E. J. Lundberg of Lidingö for his wise guidance on the interpretation of the Västerhus chapel ruin.

Generous grants from King Gustaf VI Adolf's 70th Anniversary Fund for Swedish Culture, the Royal Academy of History and Antiquities, the SyskonenWessén Foundation and the former Humanistiska Fonden made it possible to equip and staff the Osteological Section, without which all the practical and experimental procedures demanded by an investigation of this kind could not have been carried out in a reasonable time. I welcome this opportunity of expressing to the Committees and Councils of these bodies my humble and sincere thanks.

I would also thank fil. dr. Olof Arrhenius of Kagghamra, Grödinge, for material support to the Osteological Section and wise guidance and advice, and director Olov Klärre of Stockholm for supplying free his top-grade glue K.K. 33 for the reconstructions.

Much valuable information about comparative material and anthropological literature has been brought to my notice by Dr. Phil. Gisela Asmus of Hanover, Professor D. A. Binchy, Dublin, Dr. D. R. Brothwell, Department of Anthropology, University College, London, Dr. C. O. Danachair, Dublin, Michael Dolley, M.A., British Museum, London, Professor, Dr. Kurt Gerhardt of Freiburg, docent med. dr. Bengt Lindegård of Lund, Dr. A. T. Lucas, Dublin, docent fil. dr. Bengt Lundholm of Bromma, professor John Ryan of Dublin, and Dr. J. C. Trevor of University College, Oxford.

To my assistants in the Osteological Laboratory, who for longer or shorter periods during recent years were involved in the preliminary work on the Västerhus material, I am indebted for their several contributions.

The translation from the Swedish is by Stanley Thomas, M.A., University of Leicester, and Mrs Ulla Söderbäck of Lidingö carried out the statistical analysis of the measurement tables.

Finally, I could not fail to acknowledge my deep gratitude to three other persons, all of whom have in their own ways followed the progress of this work with disinterested self-sacrifice, care and affection — my friend, 1st byråsekreterare Åke Lundqvist of Bromma, my wife Anna-Britta and last, but always first, my mother, Mrs Ester Johnson of Kalmar.

Stockholm, September 1960 *Nils-Gustaf Gejvall*

Introduction

There is in Sweden a widely known tradition of historico-archaeological anthropology, as Hjortsjö and the author (1956a[1]) have insisted and, indeed, have described in a number of lectures; there is both extensive and important material available for study, and the methods and objectives have been clearly defined in Hjortsjö's doctorate lecture (1956b) and in the paper by Gejvall-Hjortsjö-Sahlström on the Stone Age woman from Luttra (1952a).

As an independent subject, closely allied to classical anthropology, archaeo-anthropology is not yet represented at any of our universities, although in its practical aspect and as an ancillary to archaeology and social history it has had a place in the Royal Swedish Academy of Letters, History and Antiquities in Stockholm since 1948.

In this book the author has attempted, mainly on the basis of the foundations built up in the School of Anthropology in Lund but also in the light of further ideas of his own, to classify and describe a group of skeletal material specially selected for its outstanding osteological and social-historical value.

Only a fraction of the large number of problems that arose during and after the investigation could be found a place for consideration here. Those chapters in which a specific aspect is discussed in detail have been allowed to expand because of the exceptional nature of the material.

In view of the enormous scope of the subject, the author has sought to make his presentation lighter by rounding off or ending certain chapters with anticipatory references to later sections, and as a matter of expediency has adopted the principle of trying to solve the problems he has set himself without recourse to complicated statistical or technical expositions. In order to avoid repetition and to make the text more easily readable, the techniques adopted for the calculation of stature have been inserted in the chapter concerned, and certain other descriptions of procedure have similarly been included in different parts of the book instead of in the general chapter on Methods.

The author's intentions in the book are to make his material available to other scholars, to underline the value and scientific potentialities of an unknown skeletal material especially for archaeologists and historians, and to suggest some of the lines along which future research may develop.

For completeness it should be added that the surprising results achieved in certain respects by the anthropological investigation, in particular the segregation of the sexes, demanded a study

[1] cf. e.g. Gejvall N-G. and Hjortsjö C-H., 1956a, in Swedish Archaeological Bibliography 1949—1953, Svenska Arkeologiska Samfundet, Stockholm 1956, p. 145 ff.

of written sources that is unfortunately all too brief, but without which a work such as this would have been seriously curtailed. The evidence derived from the skeletal material is the foundation of our study, onto which the rest has been added.

This principle is illustrated by the division of the book into a section dealing mainly with the *anthropology and medico-anatomy* (Part One) and another with *social history* (Part Two). In addition, a separate section contains the comprehensive *tables and illustrations* (Part Three). The exact line of division between Parts One and Two was particularly difficult to draw, but we have followed what seemed to be the most reasonable course and placed the demographic arguments in the anthropological section[1], while on the other hand such specific details as the attempted interpretation of the complicated stratigraphy of the site have been discussed alongside the morphological aspects. The reader will doubtless come to understand our intentions.

[1] Readers in other countries may perhaps be reminded that in Sweden the term anthropology means only physical anthropology and archaeo-anthropology (skeletal science), whereas in the U.S.A., for example, it covers many fields of study associated with Man, such as archaeology, sociology, ethnography, ethnology, etc., to mention only a few.

PART ONE

CHAPTER I

Introduction to the cemetery

Until a few years ago there lay at Västerby on the island of Frösö in the Lake Storsjö in Jämtland (Lat. 63°12' N., Long. 14°24' E, height 360 m. above sea level), an island rich in ancient monuments, immediately adjacent to a large prehistoric cemetery, a tree-covered ruin heap that concealed the remnants of one of the earliest Christian monuments of the province — the medieval "Westerhus" chapel (cf map, Pl. 1).

This large ruin-area has suffered damage on several occasions as a result of ploughing, the removal for cultivation purposes of the Viking Age cairns and barrows (in the Västby cemetery, extending mainly W from the chapel), by road construction work, etc. Damage to the chapel itself and its surrounding burial plots apparently reached its culmination during the last World War when, as a result of its situation within the airfield, it became the site for a number of military installations both inside the actual ruins and in their immediate vicinity.

As we will discover later, the skeletal material is deficient, to the possible prejudice of the reliability of such sections of the anthropological investigations as the estimates of total of individuals, average life span, mean population, etc. (cf. the relevant chapters). It is therefore advisable to try as far as possible to assess the extent of the above-mentioned damage; unfortunately, however, the records are not precise.

The earliest inventory of the ancient monuments of Jämtland, of 1689, states that there were the ruins of a stone church at Västerhus, and as late as the middle of the 19th century these are thought to have survived "to the height of the windows". But at this time stones were removed from the walls to build a cowshed at the neighbouring Västerhus Farm, resulting in the further destruction of the ruins.[1]

These events and those that follow can be traced in the large dossier under the parish of Frösö in the Archaeological and Topographical Archives (ATA) of Riksantikvarieämbetet (The Central Office of National Antiquities) in Stockholm. From them we can reconstruct, at least in broad outline, the events leading up to the uncovering of the ruin heap by a series of excavations, in the last of which the skeletal material dealt with in this book was recovered, and the demolition of the ruins as a result of the need for longer and more up-to-date take-off strips imposed by modern flying conditions. All that now remains to remind the visitor of Västerhus, the oldest Christian church in Jämtland, is a simple limestone slab bearing an inscription.

[1] Blomberg, 1947, p. 136.

In 1924 the chapel ruin and its surroundings were cleared, and the churchyard and rectory wall exposed. This work was carried out voluntarily by Jämtlands fornminnesförening (Jämtland Antiquarian Society).[1]

In the spring of 1926 the then landsantikvarie (Regional Inspector of Antiquities) for the province of Jämtland, E. Festin, submitted to Riksantikvarieämbetet a proposal and estimate of cost for the excavation of certain cairns in the vicinity of the ruins.

Fairly soon after the outbreak of war, in the summer of 1940 to be exact, reports began to pour in of damage suffered by the site. A large perimeter defence had involved digging and the throwing up of great soil heaps in the area in front of and partly also within the churchyard wall and next to the chapel ruins[2].

In a short time, as a result of letters in the local press and representations from ecclesiastical and antiquarian quarters, a strong public demand arose for the preservation of the area. The Riksantikvarie (Chief Inspector of Antiquities) intervened and the digging was halted temporarily inside the church walls and the churchyard. The military authorities submitted two alternative plans for the extension of the airfield, one involving no interference with the chapel ruins, the other requiring either the dismantling and re-erection elsewhere of the chapel, or its total destruction together with about a score of the graves in the Västby grave field. Economic expediency secured the adoption of the second alternative.[3]

In 1942 "an installation ... had been constructed in the interior of the N part of the ruins" ... "Damage was confined to a breach in the N and S walls" ... This report makes no mention of skeletal remains being found; it comprises part of a general survey first drafted in 1947 in connection with the beginning of excavation.[4]

In October 1944 a report was received from landsantikvarie Festin, in which the following appeared: "In the neighbouring area of Västerhus on Frösö we once had the most extensive grave-field[5] in Jämtland. When the celebrated inventor John Ericsson drew up his map of Frösö during his military and survey work in Jämtland (in the early 1820's), the large number of barrows and cairns at Västerhus must have belonged to this grave-field." Just 100 years later, Festin, with the aid of this map, claimed to be able to recognize rather more than 60 graves. By the outbreak of World War II, according to the same source, c. 30 of them remained, and by the time the report was written, only 2 or 3. The report also states that a strongpoint had been built inside the chapel ruins.

In 1943, as a result of renewed military activity, "the northernmost corner of the church" had been found "(two skin-walls meeting at a right-angle, made of limestone and c. 1.15 m thick (the E wall)). The work was halted and landsantikvarie Festin informed" ... "but digging continued on the other side of the defence which, since 1941, had run close to the N corner of the ruins and, resulting from this, skeletal remains were found at a depth of c. 1 m (cf. sketch plan Pl. 2)" ... "These comprised loose upper extremity fragments and parts of an articulated backbone".[6]

[1] Jämten 1924, p. 50.
[2] Berthelson, 1951. A.T.A., Frösö parish, P.M. 6/2/1951 on previous action taken in connection with Västerhus chapel.
[3] A.T.A., Frösö parish, various papers from 1946 to 1951.
[4] Hammarlund, 1947. A.T.A., Frösö parish, D. no. 3701/47.
[5] i.e. from the Iron Age.
[6] Arwidsson, G., 1943. A.T.A., D. no. 3681/43.

The sketch plan was later taken and enlarged to the same scale as the 1947 excavation plan made by S. Hammarlund[1] which served as a basis for the subsequent excavations of N. Lagerholm. With the aid of the recorded wall angles and compass directions, the two plans have been correlated to produce the combined plan given in Pl. 2. The survey was carried out and the sketch plan drawn by an osteological expert, professor G. Arwidsson; they summarise all the available evidence of damage done to the ruin-area and the most exact references that can be found to the position of the destroyed or damaged skeletons.

The report confirms the 1942 evidence of damage done to the choir. It also enables us to establish precisely where in the NW and NE parts of the churchyard skeletal remains were found. The bones were re-interred and the digging was halted. As a result of Arwidsson's report, the Director General of the Office and Museum of National Antiquities (Riksantikvarien) later wrote to the commander of the Baltic Defences about filling in the trench in which the above-mentioned wall remains had been exposed, and the floor of the proposed defence installation was raised by ½ m to prevent the foundation digging from reaching the level at which the skeletons were found.[2]

However, several skeletons had probably been displaced, especially in the NE part of the churchyard, and some of these were lost; there is also reason to suspect that long before, and perhaps occasionally also between 1910 and the outbreak of World War II, the area E and S of the apse had suffered damage and a number of graves been destroyed. As is shown on the folding plan, Västerhus has only *one* row of interments E of the apse, though this area was probably the most or one of the most eminent plots for burial (cf. chap. X).

In connection with the above survey of damage, it should be added that the author was impelled to investigate them in detail solely by reason of the surprising nature of the outcome of some aspects of the anthropological investigation, particularly the unusually low values calculated for the average life span and the author's morphological comparisons between the crania from the extreme NE and extreme SE parts of the churchyard. Both of these features strongly suggest that a number of skeletons of adult individuals must be missing.

In conformity with the Swedish Antiquities Law, the demolition of the chapel ruins, when this fate became inevitable, was preceded by scientific excavation. This took place in several phases, and yielded further proof of the great scientific importance of the church.

Numerous good and detailed plans and drawings, aerial photographs, etc. illustrate the various stages of the work and thus have preserved for posterity an important documentary record of the earliest example of church architecture in Norrland.

The first phase of excavation comprised the exposure of the ruin itself and its surrounding churchyard; it began in May, 1947, and was financed by the Royal Swedish Air Force authorities (Pl. 3). The investigation was directed for the Royal Office of Antiquities by its local representative, landsantikvarie L. Björkquist, and was carried out by the then amanuenses S. Hammarlund (1947) and C. G. Blomberg (1947), each of whom presented a report on the preliminary results.

Work was restarted in 1951 and for only a short period in 1952, when, under the direction of the then amanuensis N. Lagerholm, it was directed towards the comprehensive investigation

[1] This is mainly the same as N. Lagerholm's later plan, but does not show the graves that had not then been excavated.

[2] A.T.A., Frösö parish, D. no. 3681/43 from Riksantikvarien to the commander of Baltic Defences.

of the whole burial area together with the detailed surveying of the remains of the body of the building. A compilation of studies on the problems of the Västerhus chapel in regard to church history and building techniques, based substantially on the results of Lagerholm's excavations, has been published in a short but comprehensive paper by Berthelson (1952). Some passages from this work are examined in relation to the results of the anthropological investigations on p. 125.

Lagerholm's exemplary excavation included, among other things, the careful recovery of all skeletal parts from the area of the churchyard and the drawing up (1951) of the plan of interments (folding plan), which was of decisive importance for the realisation of the anthropological and medico-anatomical investigations.

There are many indications that the medieval interments were still fairly intact when excavation first began, with the exception of several burials lying close up against the S wall of the nave which had been disturbed by secondary depositions, and those mentioned in the chapter on Material to the N and NE of the choir and apse. This work was carried out with minute care and great interest by those taking part, with the result that we possess from Västerhus both the largest and best preserved closed find of skeletal material from the earliest medieval times in this country to date. It is said that the excavators were honour-bound to try to recover even every single tooth. The exceptionally fine collection of teeth and jaws has already received expert attention from specialists from several points of view, Å. Löfgren (1957), Lysell (1958a), Lysell and Filipsson (1958b), A. Lundström (1960). It is, however, probable, as suggested in Blomberg 1947[1], that one or more graves from the large Västby grave-field which extended to both N, W and S of the chapel, were destroyed already when that area was enclosed and consecrated for Christian use.

We must now attempt to make a braod survey, with the aid of the folding plan, of the various groupings of the burials, and their situation in plan and depth (cf. Pl. 10), from which the following general characteristics of the burial area become apparent:

1) The chapel ruin is surrounded on the N, E and S sides by an agglomeration of graves with tighter concentrations due N of each corner of the nave, N, S and round both the choir and the apse, S of the S wall of the nave and the tower, and SW of the tower. The individuals lie W—E mostly in the typical resting-position exemplified in Pl. 4. Five interments lie inside the nave and two, according to the grave plan (but more in actual fact, cf. material section) in the middle of the tower. Only the area W of the tower is free of burials.

2) All the graves are orientated E—W in the Christian fashion.

3) There is an area c. 7 m long by 2 m broad up against the N wall of the nave where no graves occur, whereas the corresponding part of the S wall of the nave has a heavy concentration, some of the burials lying underneath the wall foundation. Depositions also occur below the W gable wall, below the S wall of the tower and, as already mentioned, inside the tower.

4) The density of the burials decreases markedly from E to W, and the graves appear here and there to be arranged in rows running N and S (e.g. southwards from graves 114, 153 and 171). Graves 79—111 follow the line of the apse in an oblique row.

5) Four lines, all drawn from N to S, divide the churchyard into five sections, which could be

[1] Blomberg, 1947, p. 138.

thought to represent stages of some kind in its growth (cf. further p. 72). The easternmost runs through the outermost bottom course of the wall of the choir, the next through the NE angle of the nave, the third roughly through the centre of the nave (cutting graves 7 and 184), and the fourth lies just W of the W wall of the tower. Four graves, Nos. 224—227, lie somewhat apart from the others, SW of the tower.

The depth of most of the graves has been levelled. Photographs and contour plans of the area demonstrate a gradual slope of the ground level from N to S. The outermost burials on the N thus lie at a depth only a few decimetres less than the outermost on the opposite, S side of the ruin. The maximum difference between the deepest-cut graves to N and S is less than 1 metre. It also appears that in the most heavily used area of the churchyard no more than three interments are ever found to lie one above the other. In some cases they completely cover one another (e.g. graves 62, 63, 64), in others they cut into each other in such a way as to demonstrate their sequence (e.g. Nos. 144, 145, 146), and in yet others the order of succession is very difficult to establish. We will return to this too in more detail subsequently (p. 71).

CHAPTER II

Material and method

The methods applied below have resulted in the recovery from the cemetery at the ruined chapel at Västerhus and the area within the church of skeletal material representing 364 individuals. The division of these into sexes and age groups will not be considered here; for these aspects reference should be made to chapter III on the Division of the Sexes (p. 43) and Average life span (p. 37) respectively.

A. THE VÄSTERHUS MATERIAL AND THE 25 COMPARATIVE MATERIALS

The crania available for statistical comparison between the Västerhus material and that from elsewhere comprise 67 female and 63 male, the majority partially reconstructed, as is shown by the table of individual measurements (Table 23).

The comparative material is of extremely uneven value both as regards quantity and date and in respect of measurement data. It has been selected partly with the intention of obtaining the closest possible parallels in time and space, and partly in order to try to discover, from examples of older and more recent populations, any significant anthropometric features that could characterise the medieval inhabitants of Västerhus.

1) The most important of the closely related skeletal material groups are the Norwegian ones exhaustively studied by Schreiner (1939) and, among these, especially the crania from Trondheim (c. 145 males and 125 females), dating from the 14th—16th centuries. Schreiner's detailed comparisons between the Norwegian Iron Age and medieval crania on the one hand and between both of these and the Anglo-Saxon series on the other make it quite unnecessary to expend space here on statistical calculations in relation to our material.[1]

2) Schreiner (1935) has published equally carefully the osteology of the Lapps (c. 170 males, 150 females, 10th—20th centuries) and therefore, not least from a craniometric point of view, it is important to clarify their relationship to Västerhus.

3) In view of the use made, for example, of information in Landnámabók[2] in anthropological estimates of the relative proportions of Norse, Swedish, British and Faroese elements in the medieval population of Iceland, the author considers it important to examine the craniometric

[1] Schreiner 1946, Part II, p. 123.

[2] Cf. also Coon 1939, p. 234, a survey of the information in Landnámabók on 1003 immigrants to Iceland, and Steffensen 1953 on the same question.

data regarding the Icelandic Vikings and later skulls (c. 110 individuals, c. 60 males, c. 50 females) published by Steffensen (1953).

4) For special reasons a separate comparison has been made with the crania dealt with by the same author in 1943 from the small church at Skeljastaðir in Þjórsárdalur (15 males, 15 females). The latter are included in his series published in 1953.

Among the Swedish medieval material, the following have been correlated statistically with Västerhus:

5) Those from St. Clemen's monastery in Visby, Gotland, (8 males, 3 females) measured by Backman in 1911.

6) Those of Lindegård and F. Löfgren (1949) from St. Jörgen's hospital in Åhus, Skåne, (14 males, 6 females).

7) The 11th, 12th and 13th century crania from Lund described by Hjortsjö and Krakau (1944), (6 males, 2 females).

8) The large group of crania from Gamleby, Nyby and S:ta Anna i Halland (S.W. Sweden), partly from the later Middle Ages (1200—1500?), studied by Mellquist and Sandberg (1939), (c. 200 males, 45 females).

9) The medieval (13th Cy) material from Gudhem monastery church in Västergötland (S.W. Sweden) studied by Bengmark, Gejvall and Hjortsjö (1953), (6 males, 4 females).

10) The crania dating from the 16th century from Kongahälla in Bohuslän (S.W. Sweden), (6 males, 5 females) investigated by Tengroth and Å. Löfgren (1955). Of these, smaller groups, 5), 6) and 7) have been taken together for experimental purposes.

Other groups of comparative material are:

11) Crania from "Korsbetningen" the warrior graves at Visby, Gotland, (Thordeman, 1939)[1], from the battle there in 1361, when Valdemar Atterdag sacked Visby, Mass Grave I (10 males),

12) Ditto, Mass Grave II (29 males) and

13) Ditto, Mass Grave III (26 males)[2], 11), 12) and 13) measured by B. Lundholm who has kindly made his results available to the author.

14) The "Norse-settlers" on Greenland, (20 males, 19 females) published by Mellquist and Sandberg (1939) and dating from 985—1450.

Crania from more modern times measured by B. Lundholm[3] and kindly placed at the author's disposal from:

15) Jönköping (Middle S. Sweden), (45 males, 28 females)

16) Ullånger (N. Sweden), (14 males, 8 females)

17) Vårfrukyrka (Middle E. Sweden), (14 males, 6 females)

18) St. Clemens, Visby, Gotland, (9 males, 4 females)

19) Uppsala Cathedral cemetery, (41 males, 9 females)

20) Dragsmark, Bohuslän, (S.W. Sweden), (43 males, 11 females)

21) Östra Ågatan, Uppsala, (87 males, 38 females)

[1] This skull material is not yet investigated from an anthropometrical point of view.

[2] MS containing, among other things, the most important cranial measurements and indices have generously been placed at the author's disposal by lektor B. Lundholm.

[3] No closer dating could be given to this material, which derives from reburials in churchyards.

22) From the Iron Age on Gotland (c. 300—600) the author has taken the cranial material studied by himself, (Gejvall 1955a) from the excavations in and around Vallhagar, (9 males, 9 females), and
23) Gotlandic Iron Age crania in Statens Historiska Museum measured by Clason (the measurements kindly made available by B. Lundholm), (13 males, 7 females)[1]
24) In order to demonstrate the differences from the Stone Age material from Gotland, as representating the most carefully excavated Stone Age material in the whole country, the 19 male and 12 female crania published by Dahr (1943a and 1946) have been amalgamated and used as comparative material, and, finally,
25) comparison has been made with a Greenlandish community (c. 100 males, 80 females) from the Inugsuk region published in Jørgensen's thesis (1953) and dated by Mathiassen (1931) to the Medieval period.

There are thus 25 groups of cranial material, all statistically treated as far as possible in the same way, for comparison with Västerhus.

The most closely-situated skeletal material geographically, that from Röstahammaren in Ås parish only a few km to the north of Västerhus, should not be forgotten in this context. It was excavated from Late Iron Age graves in 1904 by Kjellmark (1905) and described by Fürst in 1905. Unfortunately the material is too small for statistical comparison, consisting as it does of only two tolerably well-preserved male skeletons and one female skeleton together with a second, extremely fragmentary, female one. These skeletons, however, will be discussed in the chapter VII:C on Morphology.

B. THE DIFFERENT PHASES OF THE OSTEOMETRIC INVESTIGATION

After the skeletal parts had been cleared of soil by careful brushing, they were washed gently in lukewarm water containing no cleansing agent. They were then placed out to dry on benches covered with thick absorbent paper, care being taken that the remains of each individual, in the same order as that in which they had been packed and following the labels enclosed with them, were separated from those of the next with strips of wood. To prevent any subsequent confusion each cranium, cranial fragment and major limb bone of every adult individual was then stamped with the grave number as given on the accompanying label.

Several of the crania had suffered damage during excavation and transportation, and the consistency of some was also very brittle; these were all impregnated in three times diluted cellulose lacquer before reconstruction.

The work of reconstruction, which was a lengthy process, was carried out in the osteological laboratory. The only fastening agent used was KK 33, manufactured by Klärre & Co., Stockholm.[2] In those cases where the breaks between the different skeletal areas, e.g. in the cranium, had been so damaged as to leave too small a joining surface for a glued joint to be expected to hold, support was provided by letting in plastic wood. These additions, while not able to detract appreciably from the reliability of the biometric series, do not, on the other hand, claim to

[1] Cannot be dated more exactly.

[2] This glue has been used for many years now in the technical department of The Museum of National Antiquities in Stockholm. The official Swiss material testing centre in Zürich has also made comparisons between KK33 and many other preparations and as a result has formally confirmed its outstanding qualities.

represent the correct anatomical form, but do result in the correct angles, symmetry, etc. as far as possible.

The photographic work was also carried out in the osteological laboratory. Every complete or reconstructed cranium and such large fragments as were considered useful for the investigations, have been illustrated in several norms or planes; the number of norms was, of course, determined by the state of preservation, so that complete crania were photographed in all the five usual planes, norma verticalis, or view from above, n. occipitalis=from behind, n. lateralis=from the side, n. facialis=from the front and n. basalis=view from below. Fragmentary crania have sometimes been reproduced in only one, tolerably well-preserved view, and so on. The exposures were made with a camera of the type Exacta Varex Vx 24×36 mm. The same film was used throughout, namely the slow, ultra-fine grained Adox KB 14 with 36 exposures per roll, and the developing was done in a developing tank with Promicrol ultra-fine grain developer.

For photographing, the mandibles were attached with wax to their respective crania, and the whole was then fixed to a special photographic stand in the OAE plane[1], and exposures were taken in the above-mentioned norms. The range was constant at 1.7 m and the objective was a portrait lens Xenar 1:3.5 with a focal length of 135 mm. In this way it was possible to use the relatively small film surface without the parallax error becoming unduly great. The large number of illustrations necessitated this procedure, and at the same time considerably reduced the financial expenditure.

In addition, all the more important pathological skeletal changes and observed damage due to injuries, asymmetries, etc. were photographed with the same equipment. In the earlier stages of the investigation, moreover, a number both of crania and and of hand- and foot-skeletons, clavicles, etc. were photographed stereoscopically. The object of this procedure, which unfortunately cannot profitably be reproduced in print, will become apparent in chapter VII.

In the same chapter we will also deal with the sagittal contour drawings of the Sarasin curve type[2], which were produced on a drawing apparatus specially devised by the author to make drawings of skeletal parts and details of such more expeditiously and with greater precision.

A great deal of time has also been spent in setting up the hand- and foot-skeletons from certain grave series. An innovation in the method employed was the mounting of these skeletal parts on transparent plastic (polyvinyl foil) to which they were fixed with plastic adhesive. The metatarsals were held together with cellulose glue KK 33 and the toe bones, like the phalanges, were mounted in their natural order on plastic foil (p. C 55). The use of the material in this condition is primarily morphological, and will be dealt with in a coming study.

The wall thickness of the larger limb bones, humeri, radii, femora and tibiae, of every adult individual was measured by means of a hole bored through the middle of the epiphysis. The actual measurements were taken with an instrument adapted especially for the purpose. It consisted of an altered sliding caliper (manufactured by Brown & Sharpe Mfg. Co. Providence R.I. U.S.A., No. 615) of which the thin, rod-shaped shaft was bent over at the tip at a right-

[1] The OAE-plane (German "Ohr-Augen-Ebene") is that in which the cranium lies when both poria (fixed points at the top of the external auditory meatus) and the orbits (fixed points in the eye sockets) are set up in the same plane. This procedure was first adopted at the Münchener Craniometrische Konferenz in 1877.

[2] Cf. Martin-Saller, 1957, Bd. I, Chapter on Method, p. 500 ff.

angle to give a hold on the edges of the bored hole on the face of the marrow cavity. Repeated measurements were taken and the values given in the summary of all the biometric series (tab. 18) are averages of these. The results may be used for the calculation of the 'sturdiness factor' (Lindegård, 1953).

The craniometric series are shown in tab. 23, where it will be seen that all the crania and mandibles were measured on two different occasions. Two measurements are given for each individual: in the left-hand column appears a figure arrived at from the first two measurements taken immediately after the reconstruction of the crania. The left-hand side of the craniometric series thus represents the average of two measurements. The figure on the right-hand side derives from measurements taken at least six months later, and this work was done by an assistant. The reason for this procedure, the statistical treatment of which is considered in tab. 16 and below (II:E), is of course to establish the extent to which subjective errors in mensuration affect the values arrived at and craniometric work in general, since the author has to a great extent used the ordinary, accepted measurements.

The investigations have in general been carried out in accordance with the principles laid down by R. Martin (1928) and Martin-Saller (1957). Some selection of measurements has, however, taken place; several new ones have been added experimentally and others have been omitted. The author has principally followed the trail blazed by C.-H. Hjortsjö and his school at Lund, which should properly be regarded as the final stage of a movement originated by Hjortsjö's predecessors in the academic chair in the Institute of Anatomy in Lund, professors C. M. Fürst and Gaston Backman after him. Together these three have developed the form of measurement recording that the Lund school now uses, and which is illustrated in tab. 19. Into this pattern, to which the precept "delete whatever is not required" applies, the measurements and indices of each individual (on which the anthropological characterisation of the material is assessed) will be found to fit. They have subsequently been transposed into codified form, of which more will be said below.

The selection of measurements and indices for both crania and limb bones demands some explanation. It must first be emphasised, however, that the skeletal tables (tab. 24) include measurements from the upper and lower arm bones of both sides, the sacrum and pelvis, and the thigh bones, tibiae and fibulae also of both sides. There is thus no question here of duplicated measurements as with the cranium. Further, the indices of the skeletal measurements are given to only one decimal place, whereas those of the crania are to two decimal places in accordance with accepted practice.

The measurements and indices of the Västerhus crania will here be described in the order in which they stand in the table 23.

Cranial capacity is determined partly by the use of millet seed (White Senegalese Millet) and partly by the Lee-Pearson method.[1] The tables show two values here, one estimated from the

[1] Martin-Saller, 1957, p. 473

measurement	$38d_1 = 524.6 + 0.000266 \cdot L \times B \times H$ for ♂	measurement	$38d_2 = 359.34 + 0.000365 \cdot L \times B \times OH$ for ♂
"	$38d_1 = 812.0 + 0.000156 \cdot L \times B \times H$ for ♀	"	$38d_4 = 296.40 + 0.000375 \cdot L \times B \times OH$ for ♀
"	H = basibregmatic height	"	OH = auricular height.

It should be noted that in the description of Pearson's formula on p. 473 in Martin-Saller 1957 there is an unfortunate printing error in that the cranial breadth, B, has dropped out completely. The formulae should thus be shown as given above.

basibregmatic height, indicated by the no. $38d_1$, and the other from the auricular height, indicated by the no. $38d_2$.

There are thus three measurements of cranial capacity, insofar as was practicable, for each individual.

The subsequent measurements, up to and including the basibregmatic height in the tables require no further comment.

Auricular-bregma height is measured at the same time as the vertical auricular is taken (with the cranium set into the craniophore[1] in the OAE plane) and is also estimated planimetrically as the height of a triangle with its base formed by the distance between two fixed points, one at each porion, and its sides the distance measured with dividers from these porion points to the bregma. This measurement (the auricular-bregma height)[2], on which the length — auricular-bregma — height index (L-OBH-I) and the breadth — auricular-bregma — height index (B-OBH-I) of the cranium are based, is indicated by the author by the no. 20a. Mesaurement 20b is the above-mentioned auricular-bregma height measured with the cranium set in the OAE plane in the craniophore, and thus represents the projected distance between the left porion and the bregma. 20b should therefore present a constantly slightly lower value than 20a. Other measurements of the brain-case and the facial skeleton follow the Martin method.

As regards the actual measuring procedure, especially the adjustment of the measuring instruments for the upper facial height, etc., the author has followed J. C. Trevor (1950). The instrument used throughout was a specially ground arched circle transferred for every reading to one and the same steel rule from which the given measurement was taken. The auricular and nasal measurements were taken with a small sliding caliper with a Vernier scale.

The osteometric treatment of the mandible follows the method of Lindegård (1951a, b) and Lindegård and Sonesson (1952).

For the cranial indices, both for the sake of comparisons with other material and in conformity with the author's earlier studies[3], the developed 'tres-indices' method established by Fürst (1933a, b) and Hjortsjö (1947a, b) has been retained. This involves more accurate mathematical delineation, especially resulting from Hjortsjö's detailed work (1947a), of the earlier divisions between what are known in anthropometric practice as long-, medium- and short skulls. Hjortsjö has also and in a similar way established a mathematically correct division between the length, height and breadth indices of the facial skeleton (1947b). Consideration has been given to these studies, which primarily serve the practical purpose of permitting the rapid division of a large collection of cranial material into broad type groupings.

For the anthropological characterisation of each adult individual the author has in part followed a table of indices drawn up in 1952 in the Institute of Anatomy in Lund and passed on to him, comprising a summary of indices, angles, schematisations of sutural closure, etc., that occur in current anthropological literature, especially in R. Martin's great text book, and, with corrections and additions, in Fürst, Hjortsjö, Lindegård and Sonesson, etc. This table of indices forms

[1] The instrument in question, which is used a great deal in anthropology, is illustrated in Martin-Saller, 1957, p. 296 and elsewhere.

[2] This measurement is described in Martin-Saller, where it is given as no. 20 on p. 461.

[3] Cf. Gejvall e.g., 1951, 1952 and later.

an important complement to the material descriptions in the present work, and is included in the tables section (tab. 20).

Thus, as the investigations progressed, a detailed anthropological description grew up for every adult individual; by this is meant in general every individual all of whose teeth had appeared or whose wisdom teeth had erupted and whose synchondrosis sphenooccipitalis had either begun or terminated. The exceptions to this rule are so few that statistically they are negligible. In a couple of cases individuals of 18–20 years of age have been allowed inclusion into the statistical section of this work, primarily because of the exceptional state of preservation of their crania.

The description of all the material could not, for economic reasons, be printed in its original form. It includes for each adult individual a general section, an analysis of the cranium in the five above-mentioned norms, and a description of the mandible and a summary of the general osteometric characteristics of the cranium and lower jaw. Finally, there is a short synopsis of the general characteristics of the skeleton, certain sex-determinant features, an estimate of stature during life based on methods evolved by Pearson (1899), Telkkä (1950) and Trotter & Gleser (1952), to give examples of different older and more modern approaches to this problem. If the material section had been published in this form it would have required some 350 quarto pages, c. 740 photographs and all the tables as well. This would have been too overloaded. Drastic cutting down was therefore required, and a beginning was made with all the commoner characteristics, such as the fact that normally neither of the two auditory openings, the auricles, is enclosed by exostoses. This feature was therefore deleted from the material description and only cases where exostoses were present were included. The author would like in this context to express his doubts as to the character of retrocoronar clinocephaly.[1] This, especially when present to only a slight degree, may be due to the drying-out of the cranium either in the ground or after treatment rather than represent a significant anthropological characteristic.

The descriptions of skeletons of adolescents, infants and foetuses, of which there were many, as the age groupings (tab. 1) show, had to be dealt with along simpler lines. The best preserved crania were, indeed, measured with the same exactitude as the adult ones, but the results, again because of the cost, could not be printed. The measurements of those infant skeletons where the epiphyses had not at death fused with their respective diaphyses, were limited to length-measurements. Every measurement that could originally be taken, however, was taken.

The age determinations (cf. also chap. III) are based largely on the development of the teeth[2] and the state of the teeth; general attention was also paid to the extent of closure of the sutures in the cranium, although great caution is normally exercised here, cf. Singer (1953) and others, e.g. Gejvall and Hjortsjö (1952a), Genoves and Messmacher (1959), etc. Age determinations must, naturally, be to some extent subjective where adults over the age of 30 are concerned. The author is fully aware of this, and in this connection can only refer to his experience over many years with skeletal material. Attempts have, of course, been made in the light of experience with modern material, e.g. by Brooks (1955), Hunt Jr and Gleiser (1955) McKern and Stewart

[1] This character is found, for example, in Hjortsjö's studies since 1947, e.g. in his investigation of the cranial material from Cyprus, and represents a not uncommon occurrence of depression of the parietalia, visible in the norma lateralis immediately posterior to the bregma.

[2] The author has here mainly followed the tables in the text book by Krogh-Paulsen, 1945. This book was used for student reading at the Royal Highschool of Dentistry at Stockholm.

(1957a, b), and others[1], to add refinement to such age determinations, but these attempts, at least where they concern populations where conditions of growth, type of nutrition, etc. are unknown, cannot be considered satisfactory (Brooks, 1955, *et al.*)

Attention is, of course, paid to the massiveness of the skeleton, to the thickness of the corticalis, and to observed changes such as the removal of bone substance from the calotte in advanced age, the latter for the establishment of the degree of senility. Cf. also the Chap. III on Average life span, p. 35 ff.

Sex determination is a constantly recurring problem in the treatment of skeletal material, that in practice presents quite enough complications. Not only do the sexual characteristics of the cranium and trunk display quite widely differing forms within the same community and between different nationalities, including both extreme male and female types as well as a number of intermediate forms, so-called allophyses, but a whole variety of other factors also complicate determination. Of course, the "genetical sex" cannot be assessed. It may in fact have been the opposite to what is displayed in the secondary sexual characters of the bones[2].

Experiments on animals have, for example, shown that exercise increases the number of chondromata per surface unit in the epiphyses of the limbs (Ingelmark 1947a). When applied to Man, this means that in individuals doing hard physical work from their formative years onwards we should expect the muscular origins to be more conspicuous and also the articular surfaces, e.g. of the upper arm and thigh bones, to be of greater dimensions; both of these being skeletal parts that play an important part in the sex determination of excavated material. A similar change can arise, for example, where one or both femora are rendered useless as a result of injury; the anterior extremities then have to perform more work and their muscular attachments become more conspicuous (e.g. grave 51).

Our sex determinations have in the main followed the Martin-Saller (1959)[3] method, and for the rest the author has had to rely on his 25 years of experience in this field. Any determination that is to aim at correctness must be based on an evaluation of all the special characteristics involved, the general picture of the skeleton and cranium as a whole, and as far as is possible on the relative impression of these characteristics throughout the whole population.

It is possible that the cranial features have in the past been allowed to play too large a part in the determination of sex. This may be connected with the fact that many large groups of skeletal material comprise only skulls, the trunk bones not being recovered.

In his investigations on Stone Age skeletons from Gotland, Dahr (1943a) also used the horizontal and vertical diameters of the articular surfaces of both humeri as sex determinants. More recent and apparently even better procedures have been tried out by Thieme (1954), who found a high degree of reliability ($t=16.2$) to lie in the sexual differences in the femur head, more exactly in its diameter, in his study of 200 negro skeletons (101 women, 99 men) in the Terry Collection of Washington University.

[1] A comprehensive series of investigations on the age determinations of skeletal material have been published by the Wenner-Gren Foundation for Anthropological Research, Inc. 1954, under the title: Basic Readings on the Identification of Human Skeletons: Estimation of Age. Of particular importance in the present context is the section by Todd on "Age Changes in the Pubic Bone".

[2] This suggestion was made by dr. T. Romanus.

[3] Martin-Saller, 8. Lieferung (1959), p. 1199 ff.

In the present material the circumference of the caput, not its diameter, has been used to the same end (Martin-Saller measurement no. 20 for the femur), and it may be interesting to note that the t-value for the difference between 70 men and 62 women whose sex was determined morphologically (cf. Hjortsjö 1958)[1] is 13.3. As far as adults are concerned, there can be hardly any doubt about the sex determination of any of the individuals, and the determinations are further confirmed by the distribution of the graves, cf. below, p. 28.

Martin and others recommend certain features of the pelvis for the determination of sex. One characteristic, the shape of the incisura ischiadica major, was useful in this connection in the cases of sub-adult individuals, where the cranium had not developed absolutely definite secondary sexual characteristics in the glabellar and supraorbital regions by the time of decease. According to Lindblom[2], who has had wide experience of this characteristic in clinical material, the shape of the incisura is a good indicator of sex in that the female usually exhibits a more open V form and the male a more closed U- or hook-like one. In virtually all the sexual determinations, as the code of the material demonstrates, this special feature is included.[3]

For the sake of completeness, it should be added that the figures in parenthesis for measurements and indices imply a degree of uncertainty. In the present work, however, these are not so extensive as to prevent their use for statistical treatment. Where the degree of uncertainty, as for example in the measurements of damaged skeletons, could be judged liable to prejudice the results, the measurements have been completely omitted.

A number of skeletal parts from the eastern portion of the cemetery in the area just to the NE and E of the apse derive from disturbed graves. This concerns especially the child skeletons found in this part of the graveyard. The task of putting in order this material and also the child skeletons lying in the area above graves 51 to 68 inclusive took much time and trouble. In order to arrive at such important results, from a general demographic point of view, as the average life span, the extent of infant mortality at different ages, the assessment of total numbers of individuals, etc., however, it is essential that the whole material should be studied. Only when all the skeletons except those just mentioned from E of the ruin and from above graves 51—68 had been examined and their established ages had been correlated in tabular form with their respective limb bone lengths, could a beginning be made towards dealing with this problem.

It appeared that most of the individuals could be identified by colour likenesses between their respective limb bones, by measuring the length of the limb bones without their epiphyses and by collating this with a more detailed study of morphological peculiarities of the limb bones of the same individual. The author is fully aware, however, that it is still possible for a few individuals to have become lost or duplicated in this process. On no excavation, however careful, is it impossible for a tiny child's skeleton or some part of such to escape the watchful eye of the excavator. A source of error such as this is of less risk to the excavation results as a whole when the total of children is in any case of such magnitude as that at Västerhus. This also is demon-

[1] Hjortsjö, 1958, p. 25 ff.

[2] Professor Lindblom has very kindly shown me diagrams demonstrating the different types of incisura ischiadica major that have occurred in his extensive clinical material.

[3] Recently a large and most important work was published on the sexual differences in the human pelvis by Santiago Genoves (1959) from the National University of Mexico. The author regrets that the results achieved therein could not — because of lack of time — be included in his investigation.

strated in the chapter III on Average life span. It is, however, regrettable for specific results, especially the case of morphological comparisons, where completeness of the material would have been ideal.

The damage, summarised in the introductory chapter, that the ruins suffered on various occasions especially during the Second World War, must have resulted in the probable loss of a number of adult interments in the NE, E and SE parts of the churchyard. Although direct proof can hardly be expected, the author thinks it highly probable that the easternmost N—S alignment of graves — the one running alongside the apse — must originally have been double, as indeed it still is at the north and south ends (cf. also chap. X, p. 123, Skeljastadir in Iceland). It is in this part of the churchyard that the most eminent grave-plots occur (cf. chap. X, p. 121) and burials are usually packed tightest in such areas. Moreover, this 'mixed zone' contained individuals of both sexes but hardly ever, to judge from the circumstances at Västerhus, of children. In the absence of direct proof, however, it is very difficult to ascertain whether skeletons have been lost from E of the apse, and all the more so because of the fairly even division between the sexes in the material as a whole.

The complete re-numbering of the whole material was the next stage in the investigation, after all the measurements had been taken. The different graves had been excavated in the order in which they had been found by the working gangs on the site. The folding plan, shows the revised numbering.

Numbers 1—7 incl. were assigned to the graves inside the church starting from the middle of the tower. The series continues in the NW part of the cemetery with grave 8 and moves round mainly in a clockwise direction over the E portion, turns away S alongside the apse, then off to the W, and finally ends in the furthermost SW corner of the churchyard. In order to avoid too sharp a break with the grave plan made during the excavations, subdivisions such as 89a, b, c, etc. have subsequently been interpolated into the tables. Within the area E and NE of the chapel ruin, where the child graves in particular were disturbed, as stated above, the skeletal parts of each individual have been assigned the designation "Div. E or D.E." and subdivisions a, b, c, etc.

C. THE INTRODUCTION OF THE ANTHROPOLOGICAL CODE AS A SUBSTITUTE FOR A VOLUMINOUS MATERIAL DESCRIPTION

On completion of the treatment of the material it was clear that such a large quantity of descriptive material had been amassed that it was impracticable to publish it together with all the plates required for illustration.

The method used here for the first time, as far as the author is aware, of translating the descriptive analysis into an anthropological code, is not claimed to be the final solution. It permits the author to present his anthropological description of every adult individual in concentrated from expressing over 500 different data and enables those specially interested to obtain a deeper, detailed knowledge of the material (e.g. details of every tooth, every incidence of caries, etc. have been included, to give only a couple of examples). On the other hand, the use of a code key is a comparatively lengthy procedure and one which many people find troublesome. The

code employed here, however, which is given in Table 21, preceded by the tables of indices, is so simply constructed that it should present little difficulty in use.

The material description has been carried out in such a way as to allow the illustrations to play a leading role; it is thus the reconstructed crania that have determined the scope of the code. Every item in the material description is represented on the left-hand page by a codified text usually comprising six horizontal groups of frames, corresponding to six rows of cranial photographs on the right-hand page, where every cranium is illustrated in the five usual norms, from above, behind, the side, the front and from below. To read the codified text, cut out the key (tab. 21) from the book, place it with the top immediately under the line of squares to be decoded and read off the information. The code, like the material description in general, is based on the observations during their experience of anthropological work noted by Fürst, developed by Backman, and finally crystallised by Hjortsjö, with whom the author has enjoyed close collaboration both in the formulation of this study and previously over a period of several years.

The author wishes to express his satisfaction that he has been permitted a completely free hand in undertaking this experiment in codification and developing it along his own lines.

The following points should be noted in decoding:

Under point A at the beginning of the left-hand column there is first *a general description of the cranium* giving data about the colour shade of the specimen, state of preservation, structure of the cranium, its size and the state of the teeth. There is a separate space under A also for the dentition state of children and young individuals (=A:j). Then follow the above-mentioned descriptions of the five different norms (views) under points B (corresponding to the first, left-hand photograph)=view from above, C (the next photo to the right)=view from behind, D=side, E=front, and F=view from below.

The code then shows, under point G, the characteristics of the mandible, and under H a brief summary of the general character of the skeleton, e.g. state of preservation, structure, muscular relief, sex determinants, etc. Consideration is also given in this section to the surviving diaphysis parts of children (H:h), and finally, under points J and K (general observations and comments) are included such features as pathological changes, damage resulting from injuries, "discrete traits", etc.

The material is presented so that descriptions of all the crania of adult women and men (in that order) included in the statistical calculations come first, followed by such young individuals and children as are deemed to justify illustration, and finally all the remainder which are not illustrated.

The gaps in the coded descriptions are due to defects in the material itself and reflect the degree of its state of preservation.

It was impossible during the investigations to avoid isolated instances of repetition and a few of oversight; such cannot be foreseen from the beginning when work of this kind and on this scale is undertaken. In view of this, a few additional comments are required about the data that the code is intended to express:

In certain cases, e.g. under D:j, the face is characterised on the basis of the facial triangle as 1=broad, 2=narrow. Sometimes the codification shows 1—2, whereby the face so characterised is shown to be neither broad nor narrow but in between the two. This, in turn, is calculated from the value of the upper facial length-height index (following Hjortsjö 1947b) (cf. point E:m

in the code key) where three possible categories are given (cf. index list, tab. 20): 1=dolicho-chamae-, 2=ortho- and 3=brachyhypsifacial. When, for example, the upper facial l-h-i characterises a specimen as orthofacial, this would be expressed in the codified text under D:j as 1—2. The gradation possibilities of the code have been similarly employed throughout the whole register of characteristics. Decoding, however, gives only part of the anthropological description. Detailed information about the data summarised in the code symbols should be sought in the tables of indices. When faced with the choice between inserting these figures and data in the code key and retaining the latter in its original form, the author decided to retain the latter. The tables of indices are easy to use. For example, to discover exactly what is implied when a facial skeleton has an upper facial length-height index (following Hjortsjö 1947b) described in the code key as brachyhypsifacial (E:m), reference to point 11 in the tables of indices gives the percentage ratio of the facial height to the facial length for a brachyhypsifacial as 75.00 and over. In the same table of indices under point 17 a classification of sutural closure is given, the form of which is the main basis for the corresponding point in the code key (A:k). It includes the different parts of the sutura coronalis, sagittalis and lambdoidea, and the symbols — and + represent open and ossified sutures respectively. Similarly, under point A:kd (sutural bones) easily interpretable abbreviations have been inserted for the different sutures and their parts represented by 1, 2, 3 and 4, all corresponding to the structure of the table of indices.

The author emphasises his full awareness that this method of presentation of a material description, despite its superficial appearance of objectivity, still does not exclude the possibility of some degree of subjectivity from creeping into the determination of certain characteristics. This is true, for example, of such features as gracility and robusticity respectively, the gradation of the strength of muscle attachments, the relative size of the foramen magnum, etc. In these respects first consideration has been given to the form in which these characteristics are manifested in general within the two sexes throughout the whole of the Västerhus material; the gradations are relative, not absolute.

The main reasons for the introduction of this code as a substitute for a detailed and exhaustive publication of the material, have been given earlier. Apart from the economic advantages that accrue, a coded text gives a clearer overall survey because of its compressed form, and can be used for statistical treatment if required.

D. THE STATISTICAL TREATMENT OF THE MEASUREMENTS

The *statistical treatment* of the numerical evidence derived from the measurements taken of the crania and skeletons has been carried out according to generally accepted methods.[1] The results are presented in the summary tables, tab. 17 and 18. For each measurement we give the number of measurements taken (n), their mean value ($\bar{x}$) and its mean error ($\varepsilon_{\bar{x}}$), standard deviation (σ), coefficient of variation (V) and the range (r).

The standard deviation is calculated on the formula $\sigma = \sqrt{\frac{S(x-\bar{x})^2}{n-1}}$.

The mean error of the mean value, $\varepsilon_{\bar{x}}$, is the result of dividing σ by $\sqrt{n}$; and the coefficient of

[1] We have relied, for these elementary statistical operations, on Bonnier-Tedin, 1940.

variation is given by the standard deviation expressed as a percentage of the mean value, according to the formula $\frac{\sigma \cdot 100}{\bar{x}}$.

The only exceptions to such treatment of the measurement figures are the three combinations of the cardinal indices of the neurocranium and the facial Tres indices. These are estimated according to Fürst and Hjortsjö, and the frequencies have been calculated for all these indices, and are included in tabs. 12B and 12C.

As far as the crania and associated mandibles of adult individuals are concerned, two series of measurements were taken, as has been stated above. The variates being the differences between reading I and II for each measurement, the calculations carried out as above, the result will be found in tab. 16, where the error for each measurement may be calculated from the formula $\frac{\sigma d.}{\sqrt{2}}$

The 25 groups of comparative material used in this book have been treated in a more time-saving manner. The standard deviations of such measurements as do not usually receive statistical treatment in the literature, have been calculated by Tippett's method.[1] This was used partly because the author's main intention was merely to fit his material into the broad picture of earlier, contemporaneous and later groups of comparative material and only to a small extent into the well-known measurements from large groups of skeletal material, and partly because the comparative groups themselves are, in many cases, so restricted in size that the much more lengthy calculation of standard deviation by the formula cited above would in any case not have resulted in any appreciably higher degree of statistical certainty.

For every mean value in each group of comparative material we have calculated the difference in relation to the values at Västerhus, its mean error, and the significance level, all according to accepted methods. As far as the calculation of statistical significance is concerned, only those differences that have a probability value (p) of ≤ 0.001 have been taken into account.

E. METHODOLOGICAL ERRORS

In view of the fact that differences (often only small) occur in the relative and absolute measurements that have sometimes provided the basis for anthropological discussions,[2] there can be no question about the considerable importance of establishing the extent to which the various individual measurements that are employed in current anthropological literature and are taken in practice may be affected by the way in which different persons make their setting-up and take their readings. There is, moreover, reason for thinking that such metrical errors also include some that arise from lack of precision in the description of a given measurement, from uncertainty about the exact location of basic measurement points, e.g. because of morphological variations, and from other such circumstances.

Table 16 shows, measurement by measurement, the results of the statistical study of the differences between the two separate metrical series in Table 23. We must now discuss these briefly.

[1] Tippett's method of calculating standard deviation is taken from Biometrica (1925), 17:386 as cited in Snedecor, Statistical Methods (1938), p. 98, and from general tables.

[2] Cf. e.g. Ciba Foundation Symposium on Medical Biology and Etruscan Origin, 1958, p. 141, etc.

The *estimates of volume* (skull capacity) show that the direct measurements in which a glass measure is used to calculate the number of millilitres of millet seed each cranium will hold give, as one would expect, a consistently higher errors (10.71 ml for ♂♂, 10.22 for ♀♀) than the methods employed for the same purpose ad modum Lee-Pearson. The most important sources of error here are a) the degree of compressibility of the material used as filling, b) the impossibility of sealing with cotton wool as prescribed the apertures opening from the brain cavity in exactly the same way on two separate occasions running and c) errors in taking the readings and in the measuring apparatus.

The errors for the following measurements: maximum skull length, glabella-lambda length, glabella-inion length, nasion-inion length and nasion-bregma length, are consistently less for both sexes; the same is true for the lambda-opisthion, nasion-basion, maximum skull breadth and anterior forehead breadth measurements. The metrical error, however, rises steeply for such measurements as the bregma-lambda length, posterior forehead breadth, biauricular breadth, asterion breadth and mastoidal breadth. Nor can there be any doubt wherein the reason for this greater variation lies: it is the difficulty that is often experienced in locating precisely the bregma point on individuals where the sagittal and lambdoidal sutures have ossified. This same circumstance also accounts for the metrical error in the asterion breadth and, albeit to a smaller extent, in the posterior forehead breadth. In the case of the mastoidal breadth it is the shape of the processus mastoidei that is decisive: the blunter or more rounded it is, the larger becomes the metrical error; the more pointed, the smaller the error. The variations in the biauricular breadth and posterior forehead breadth are primarily to be attributed to the morphological difficulty of locating precisely their measurement points.

For the measurements of arcs and circumferences of the cranium steel and cloth tape measures are used. As table 16 shows, the dispersions involved are consistently greater than for measurements taken with dividers or sliding calipers (with certain exceptions). Some of the commonest reasons for this greater variability lie in problems of setting-up, in stiffness or inflexibility in the steel tape and a degree of elasticity in the cloth one, and in morphological obstructions resulting from complete sutural obliteration.

Most of the measurements of the *facial skeleton* are precisely specified and their dispersions are low. In a few, isolated instances it may be difficult to fix the zygomaxillaria, especially in the case of older individuals.

The errors for the *outline angles* of the face and lower jaw are slightly under 1°. This is due to the type of apparatus employed in reading these angles. In the first case, the cranium when mounted in the craniophore for both of these readings is orientated in the OAE plane (the Frankfurt plane), and a caliper with a goniometer attached is used to measure the angle between a line drawn from the nasion to the prosthion and the plane itself; in the second case, the lower jaw is fitted into position against the calvarium with the cranium set up in the OAE plane and the same goniometer equipment is then used to measure the angle between a line joining two adjacent points, the infradentale and pogonion, and the OAE plane. The whole sequence of procedures is a lengthy one, the apparatus in current use too crude for the kind of angles it is intended to measure, and the osteological material not infrequently too fragile, so that it gives way either while the measurements are being taken or during setting-up.

The last part of table 16 shows the way in which the various indices based on the above measurements are affected by the metrical errors within the absolute measurements themselves. These values are not merely of academic interest; in fact the differences that result can give rise to considerable confusion, as for example when a breadth-length index becomes 75.22 on one set of measurements and 75.79 on the next, in which case the cranium is characterised as long-skulled on the former figures and as medium-skulled on the latter (cf. Index List, tab. 20).

To illustrate the differences in metrical errors between one of the measurements shown by table 16 for all individuals (♀ or ♂) to display relatively low variation between readings I and II and one of those with a high variation, we selected the maximum skull length (Martin's measurement No. 1) and asterion breadth (No. 12). The errors for these two measurements in two series of 20 readings each, taken on the same specimen (cranium of ♀ in grave 40) were as follows:
σ_1 for max. skull length=0.5532; mean value=179.5 mm.
σ_1 for asterion breadth =2.4568; mean value=111.4 mm.[1]
The size of the metrical error expressed as a % of the mean value is thus only 0.3 in the first case but no less than 2.2 in the second.

It is the author's opinion that every anthropological material, which in any case must be measured more than once, should be investigated in respect of metrical error. Much also still remains to be done in the way of devising new types of apparatus to render measuring procedures more rapid and exact.

As long as we continue to employ the purely descriptive method, based on a series of measurement procedures carried out on skeletal material, metrical errors of the magnitude described above will be difficult to avoid. New procedures do exist, e.g. those of Mellquist and Sandberg (1939) and Tengroth (1959) in which metal pins are used to mark the measurement points on the skull; X-ray photographs are then taken of the skull in various normae and the measurements read off from these. It can, however, still be objected that this method is no less time-consuming, since it introduces yet another new procedure — the photographing.

[1] Another, much used formula was employed for this experiment; the error of the method $\sigma_1 = \sqrt{\frac{\Sigma d^2}{2n}}$ where d = the difference between the first and second measurement in each pair of readings, and n = the number of duplicate measurement.

CHAPTER III

Total of individuals, age-group distribution and average life span, estimate of average population, sex distribution, etc.

The ability of an anthropologist to assess exactly the total number of individuals represented by skeletal material at his disposal is influenced to a high degree by a variety of factors, some of which are of an accidental nature. In the present instance, he has been able to reassure himself with his own eyes that not only the excavation technique and the packing and transportation of the material, but also the whole tempo of the various research stages up to its final state of readiness, excluded any possible serious loophole by which intermixture or loss of skeletal parts could occur. The state of preservation of the material was good throughout and, apart from the secondarily deposited skeletons referred to earlier in the chapter on Method, this consideration presented no great difficulties.

In his attempts to establish the total of individuals from the mass graves at Korsbetningen following the Battle of Visby in 1361, hitherto the most extensive (c. 1800 individuals) of our material groups, but one that still has been examined only from a medical and odontological point of view and was also seriously disturbed, Ingelmark (1939) used two methods of approach. One was based on a count of the maximum number of the heads of thigh bones from the same side in each of the graves, and the other employed a mathematical formula for estimating the minimum number of individuals from each such mass burial. No such procedure was necessary in the case of the Västerhus material. Instead, the material from adjacent interments was placed out in such a way on tables that any odd skeletal fragment that had become associated with the wrong individual as a result of secondary depositions could be put right. In fact the whole of the material was spread out in a large room for a month for this kind of checking.

1. TOTAL OF INDIVIDUALS

The clearest survey of the total number of individuals and their age groupings is provided by the diagram tab. 1, where the reader will find every individual identified together with its estimated age at death and — from the age of 14 yrs upwards — its sex attribution. With the exception of seven cases interpreted as foetuses, the present material is estimated to represent a total of 364 individuals. Of these no less than 183 (50.3 %) died before the age of 7 (Infants group I), 27 (7.4 %) between 7 and 14 years (Infants group II), 15 (4.1 %) between 14 and 20 years (Juve-

niles), 69 (19.0 %) between 20 and 40 years (Adults), 65 (17.8 %) between 40 and 60 (Mature) and 5 (1.4 %) over the age of 60 years (Senile).

Altogether, from the age of 14 years and upwards, 74 individuals have been judged to be males and 80 to be females.

2. AGE DETERMINATION

In addition to what has already been said in the chapter on Method about the age determination of skeletal material, a few further comments are necessary, and reference should also be made to Hjortsjö's summary (1958).[1] It is general knowledge that wide variations occur between different individuals in respect of the age at which certain osteological characteristics make their appearance, e.g. sutural closures, the coalescence of the epiphyseal cartilage, the eruption of different teeth, etc., and attempts to chart these with the greatest possible exactitude for present-day living perons are to be found in current anatomical literature.[2] The established fact that growth nowadays is still not complete even among 21—23 year-old white men in the U.S.A.[3], although it apparently was so barely a decade ago, and that variations in this and other similar respects may be due to factors of geography, population, nutritional physiology?, etc., must give rise to grave suspicions among practicing osteologists that sources of error of unknown kinds may be causing serious distortion in their attempts at precise age determinations on unfamiliar prehistoric material.

Age calculations of such material are not infrequently presented in diagrammatic form, showing for example the total of deaths at different ages in prehistoric and later periods.[4], [5], [6] These must be interpreted with great caution. A series of investigations, predominantly in the U.S.A., since the last World War on large groups of skeletal material comprising both white and coloured soldiers who fell on various fronts, individuals for whom their height on enrolment, exact length of life and many other facts are known, has shown among other things that the use of the ordinarily accepted anatomical age-determinant charcteristics results sometimes in an underestimate, sometimes an overestimate of their ages.[7] Brooks (1955) has shown that a consistent overestimate of the age at death results from calculations based on the symphysis of the pubis, whereas the use of the cranial sutures leads to a regular underestimate of the true age. Since by far the great majority of age determinations referred to in the present study are based primarily on cranial suture evidence, which was of course the generally accepted practice until a few years ago, we may assume that the resulting ages are, on average, too low. The most recent investigations of all[8] have led to the same conclusions, and this should be borne in mind when considering the average life spans given below.

Our age determinations for the Västerhus skeletons have therefore been based primarily on the teeth and, where these were absent — as was not infrequently the case within the Infant group I — on a comparison within the whole child material with the diaphysis lengths of the

[1] Hjortsjö, 1958, p. 29 ff.
[2] e.g. Rauber-Kopsch, 1947.
[3] Cf. Trotter & Gleser, 1958 and below.
[4] Euler und Werner, 1936, pp. 139—41.
[5] Gejvall, 1948, pp. 153—200.
[6] Carp, 1950, pp. 1198—1201.
[7] The following is a selection from the prolific literature in this sphere during recent years:
Singer, 1953, Brooks, 1955, Hunt Jr & Gleiser, 1955, Young, 1957, McKern, 1957a, McKern & Stewart, 1957b.
[8] Genoves y Messmacher, 1959.

limb bones of other children whose age could be established from their dentition. As far as the adults and mature and senile individuals are concerned, attention was also paid, though not as decisive factors, to abrasion, sutural closure, thickness of the corticalis, poroticisation, etc., and, in the case of a small number of male skeletons by way of experiment, to the shape of the pubic bone symphysis.[1], [2]. The final result should, however, be considered only as an attempt to combine all the factors indicative of age differences, with the reservation that unknown sources of error may have resulted in inaccuracy.

It would have been desirable to have used a group of material of the present magnitude to test Gustafson's (1947)[3] method of assessing the age of an individual by means of smooth sections of the teeth. This has not proved possible, however, in the time available, but it should provide an appropriate sequel to these investigations at some future date.

In view of this scepticism about the possibility of arriving at exact calculations of age for bones, it may seem strange that the age diagram displays so fine a range of differentiation (cf. tab. 1). As the description of the material also shows, it differentiates in the Infant group I between 0—3, 3—6, 6—9 and 9—12 month-old children, between 16—18 and 18—20 year-olds among the juveniles, etc. All this must, of course, imply that the results are to some extent based on personal experience; the extent to which this is true cannot be assessed so long as we lack that variety of factors which eliminate the subjective element altogether.

These differentiations have been ignored completely in our discussions of the age distributions of the large groupings (infant I and II, juvenile, adult, mature and senile).[4] Nevertheless serious difficulties still arise, one of the most troublesome being the decision where to draw the right line between the adult, mature and senile categories. Objection could also be raised against the inclusion of a few individuals where ossification of the synchondrosis sphenooccipitalis is still incomplete, or where the wisdom teeth are not fully ready, within the group used for statistical treatment of the cranial measurements. This was done for two reasons, partly that these few 18—20 year-olds include a couple of the finest and best preserved of all the crania, and partly that where changes of a biometric nature are concerned, these hardly take place rapidly enough to have any statistically significant effect when the difference in age is a matter of only a couple of years.[5] Attention was, of course, also paid to the position of their various measurements within their respective ranges, when the question arose whether or not to include these sub-adult individuals, numbering only four in all out of the whole material, viz. the female No. 8 and the males Nos. 99a, 171 and 194.

3. AVERAGE LIFE SPAN

The same reservations that we have indicated above in the matter of the age determination of skeletal material, must also apply to a great extent to the possibility of estimating the **average span of life**. This is quite obvious, and it calls for a degree of scepticism about the estimates

[1] Brooks, 1955, p. 582.
[2] McKern & Stewart, 1957a, p. 71 ff.
[3] Gustafson, G., 1947, p. 556 ff.
[4] In the anthropological literature (esp. Martin-Saller) age groupings are classified as follows: Infans (Inf.) I: 0—7 years, Infans (Inf.) II: 7—14 years, Juvenis (juv.) to the 18th or 22 year, Adultus (Ad.) to the end of the 30's, Maturus (Mat.) to the end of the 50's and Senilis (Sen.) over 60 years of age. Cf. Martin-Saller, 1957, p. 431.
[5] Büchi, 1950.

to be found in the literature. These must be considered as attempts only, and not as reliable and well-grounded facts. There is much to suggest that they might be correct, but much also to show that they are subject to serious sources of error.

For the Västerhus community we shall adopt several different approaches as regards the average span of life, and see where they lead us.

Møller-Christensen (1958)[1] records one method of calculation but without giving its exact origin. He multiplies the total of individuals in the infant I group in his extensive material from Æbelholt by 5, the total of inf. II by 10, juv. by 20, ad. by 30, mat. by 40 and seniles by 60. He gives a bibliographical reference for his age determinations to Carp (1950) where we find the same stock diagram as Møller-Christensen uses for comparisons with his own material. The Æbelholt monastery skeletons from 1200—1550 thus provide an average life span of 32.2 years for all individuals, 34 for the males and 27.7 for the females; figures which would seem to be somewhat high. We must bear in mind what has just been said about the tendency towards overestimating the age at death when dealing with skeletal material, and also the great local variations shown in the paragraphs below. The average life span at Æbelholt stands higher than most others of the same period and earlier. Could this perhaps be explained by the fact that a monastic community lived a more sheltered life than ordinary folk? The birth-rate too cannot be the same here as in other material groups.

If we now apply the same procedure to the Västerhus material (cf. tab. 2, attempt A), we arrive at an average life span for the whole community of only 17.7 years, 17.0 for men and 18.4 for women. It must be remembered here that we, like Møller-Christensen, have assumed and equal number of males and females among those individuals (inf. I, II and juv.) where the sex could not be determined.

We must now compare this result with the figures from three other methods, experiments B, C and D. In B we have ignored the c. 50 individuals that, for technical excavation reasons, might possibly be suspected of having been interred after the Västerhus cemetery had ceased to be used (i.e. the infants I and II individuals already discussed in the chapter on Material, placed in the area on top of graves Nos. 51—68 and 89, and to the E of the apse (Div. E)). The average life span estimated according to the Møller-Christensen method now becomes slightly higher: 19.5 years for all the individuals, 18.7 for the males and 20.3 for the females (tab. 2).

Finally, in experiments C and D (cf. tab. 2) we employ the same procedure but introducing the more detailed differentiation of age determinations presented in the diagram, tab. 1. In C the calculations are based on the lower values for the age limits, and in D on the higher values. It will be seen that the lines taken by the curves representing the total of deaths within the broad age groupings, resulting from the different calculations in A, B, C and D differ only negligibly from one another.

The next stage is to examine the results of earlier attempts to calculate the ages at death of Swedish skeletal material from the medieval period. Mellqvist and Sandberg (1939) have carried out odontological studies on over 400 individuals from the medieval churches at Gamleby and Nyby in Halland and compared the mortality curve based on these with a modern one (for the years 1931—35) taken from the Statistical Yearbook for 1938. The average life span calculated from these by the present author is 28.8 years.

[1] Møller-Christensen, 1958, p. 137 ff.

Since Gejvall (1947, 1948, etc.) showed that cremated human bone remains from both prehistoric and recent times can be used for the determination of approximate age at death, of sex and of total number of individuals, nearly 5,000 cremations have been examined at The Museum of National Antiquities in Stockholm. It is therefore appropriate here to attempt to correlate these age determinations, covering material from virtually the whole of our prehistoric times from the Bronze Age onwards, and present the results in diagrammatic form so that comparison can be made with Västerhus and the other groups of material discussed in this chapter.

Plate 5 shows a series of diagrams comprising age determinations as follows:

1) Västerhus, 2) Gamleby and Nyby (Mellqvist and Sandberg 1939)[1], medieval, skeletal material.

3) Vallhagar, Fröjel parish, Gotland (Gejvall 1955a), two groups together comprising c. 90 individuals, inhumations and cremations, spanning a period from late Celtic la Tène III, through the Roman Iron Age and the Migration Period and some way into the Vendel Period. The average life span arrived at for all these individuals is 35.4 years. The reason for this relatively high figure is the small number of children represented — the absence of child skeletons from large portions of the prehistoric period is a problem demanding a chapter to itself and lying outside the scope of this book. It cannot, however, be explained by more rapid disintegration in the soil — so much at least can be said.

4) Fiskeby, Ö. Eneby parish, Östergötland (Gejvall 1955b). 458 groups of burnt bones from a large cemetery, the oldest part of which is dated to the end of the Bronze Age, and which continues on up to a short way into the Viking period (Lundström, P., 1952a, b). Estimated average life span — 30.7 years.

5) S. Spånga near Stockholm (Gejvall 1955c). 149 individuals from cremation burials, dating for the most part from the latter half of the Iron Age (Biörnstad 1951, 1955, 1958). Estimated average life span — 31.8 years.

6) Simris II, Scania (Gejvall 1952b). 98 groups of burnt bones from the Bronze and Early Iron Ages (Stjernqvist 1955). Estimated average life span — 29 years.

7) Kyrkbacken, Horn church and parish, Västergötland (Gejvall 1948). 199 individuals from 200 B.C. to c. 50 A.D. (Sahlström 1948). Cremation pit burials. Estimated average life span — 24.7 years.

8) Kållands Mellby, Bankälla and Stora Ro (Gejvall 1951, 1954). three cremation cemeteries from Västergötland, closely situated to and contemporaneous with the last (Sahlström 1951, 1954), comprising in all 197 individuals with an average estimated life span of 26.4 years. It should be noted that the Bankälla cemetery did not contain anything like as many children as the others contemporary with it, and this must naturally result in raising the average life span.

9) We have already mentioned the results of age determinations carried out by the author on cremated skeletal fragments from the North and South Crematoria at Stockholm in 1947—48[2]; these are used for comparison partly with the above-mentioned material groups and partly

[1] Mellqvist and Sandberg, 1939, p. 59.

[2] The author had the opportunity in the years 1947—48 of measuring on exactly the same lines as the prehistoric burnt bones, 99 cremated individuals from these crematoria. As a result it was possible to confirm the occurrence of a statistically guaranteed sex distinction in the wall thickness of some of the extremity bones (at the middle of the diaphysis). The author has reported on this in his 1948 paper on the burnt bones from the Horn gravefield in Västergötland.

with the curve published by Mellqvist and Sandberg and derived from the Statistical Year Book for 1938. The actual known average age for these 99 individuals is 64.3 years, 63.1 for the men and 65.4 for the women.

For the procedure employed in determining the age of the cremated bone material reference should be made to the works by the present author quoted above, especially 1947 and 1948.

If at this stage we apply the Møller-Christensen method to the cremated material of which we know the age, and of which the average life span for all individuals is 64.3, we arrive at quite different and lower values, viz. 52 years for the whole group (52.2 for men, 51.8 for women).

The above experiments and comparisons give the Västerhus individuals the lowest average life span of all, and we must, therefore, come to a decision whether this can in fact be the case or whether it is a faulty conclusion due to the procedure employed in making the estimate. We must first remember that the total of individuals does not represent the complete population using the churchyard. An unknown (though probably small) number of presumably adult skeletons have been lost as a result of damage to the site.

The difficulty of drawing the right boundaries between the adult, mature and senile categories within the age groups respectively has already been mentioned. It is self-evident that if, for example, 50 of the children in the 3—6 month age group in the summary diagram, tab. 1 were to be moved one stage higher and placed with the 6—9 month group or one stage lower into the 0—3 month category, this would not seem to have anything like the same effect on the final result as if a mere ten or so individuals were shifted one stage lower from the senile group or the same number carried a stage higher from the mature group.

What increase, then, would result from the addition of e.g. 10 individuals to the 50 year-old group in the average life span of the whole Västerhus material? The answer is: barely one year. A couple more examples will provide further information. If we take away 50 of the 1 year-old infants, the average life span for the remainder would rise to 20.4 years; if, instead, we subtract the same number of 5 year-olds, the average for the rest would be 19.8 years, scarcely 2 years more than the figure given by our original calculations.

It must, however, be established beyond any doubt that the above-mentioned sources of error, the possibility of incorrect estimations of age or perhaps the loss of a small number of individuals from one age-group or another, cannot entirely explain the unusually low mean life span that we have calculated for our skeletal material. Even if we add to the material 10 adults in the 50 year-old group and subtract 50 1 year-olds, the average life span of the remainder would still rise to no more than a bare 21 years, well below the average for the other skeletal material available from Scandinavia. We are therefore compelled to look elsewhere for the reason. One possible cause is mentioned briefly in chap. VIII, on pathological changes.

The cemetery was, moreover, in use at a time when the plague was rife in northern Europe, and it may well be imagined to have made its worst inroads into the lower age-groups, although there is no direct proof of this. This is, of course, only one of the many possible explanations for the short average life span. Others include, for example, the continued burial of children at Västerhus after the adults had begun to be buried elsewhere (Frösö church?), or some epidemic to which infants were particularly susceptible; — but it is perhaps idle to continue to search for other hypothetical explanations.

On the other hand this humbling conclusion is considerably offset by the unquestionable degree of agreement shown by the diagrams presented in Plate 5, at least within those age groups (infans I to juveniles) where the age determinations are most secure.

All the diagrams, apart from the present-day one, exhibit a comparatively high death rate among the adult age groups. This is generally accepted fact. On the other hand, it is perhaps not so widely known that prehistoric communities also are characterised by a marked decrease in mortality during the later years of childhood and early youth.

Finally, we should note that the estimated average life span arrived at for Västerhus in the Early Middle Ages, about 18 years, despite its undoubted lowness, is nevertheless still adequate to permit the continued survival of the community, and even an increase in it. In this chapter (5), the results of individual age determinations suggest that adolescents were considered as adults at as early an age as 14 years. During the average of 4 years of life that remained they must have been able to bring at least 2 or 3 children into the world.

We shall not consider any theories here about the reasons for the high mortality rate during the first year of life; this will be dealt with later (Chap. VIII).

The average age we have arrived at for Västerhus lies round about 18 years, whereas those for all the other material groups investigated, as listed above, are apparently higher. With the exception of the Horn cemetery from the Late Celtic period, where the average life span was estimated both osteologically and by the same method as all the rest of the material as 24.7 years, the remainder lie considerably higher. The closest of these are the three gravefields of Källands Mellby, Bankälla and Stora Ro, situated not far from Horn, with a combined estimated average life span of 26.4 years, though this would have been significantly lower — as mentioned above — had it not been for the destruction of a number of graves including undoubtedly some of children by the gravel pit at the Bankälla site.

The average life span arrived at for Æbelholt, Gamleby and Nyby in Halland, Vallhagar on Gotland, Fiskeby in Östergötland, Spånga near Stockholm and Simris II in Scania was 30.6 ± 1.26 years with a standard deviation of ± 3.33 years.

It is hard to establish whether the low value at Västerhus is due to a faulty method of determination, e.g. an underestimate of ages on the basis of sutural features, or indicates the possible loss of a group of adult individuals before excavation. As regards the latter, there is especially reason to suspect the area S of grave 111 to the S of the apse. The aerial photo, Pl. 3, shows a hole dug in this area, and it might have happened that several skeletons of adults were lost here. There is also clear evidence that a small number of skeletons or parts of such have been lost from the areas NE and E of the choir and apse and N of the W part of the nave. Even so, however, this could not possibly imply an increase in the average life span over that estimated for the remainder of anything like ten years or so.

The known average life span of the modern material from the crematoria and the estimate calculated ad modum Møller-Christensen differ by almost 14 years, but this difference lies in the opposite direction from that exhibited by our experiments on the Västerhus material (experiments A and B contra C and D). The divergences between the latter are, however, negligible. The suspicion therefore arises that this method provides more exact results for communities where the average life span is low and less exact where it is high.

Despite the comparatively adequate total of age determinations of skeletons from the prehistoric and early medieval periods in this country, it is still too early to assess their true significance. The complicating factors are far too great. What, for example, is the effect of too frugal or too rich a diet respectively during the periods of ossification of various parts of the skeleton and the times when the different teeth are erupting? Although some of these processes have been elucidated to a great extent as a result of intensive investigations carried out in the last few years in America they refer only to white men and in a small degree to negroes. We know nothing about the true state of affairs in the past, and this calls for close observation when the graves of known historical personalities are opened and the remains subjected to anthropological analysis.

Knowledge of stature from bone measurements (see next chapter) extends as far back as our Stone Age; we know, for example, that c. 4,000 years ago among the population of Västergötland there were individuals small in stature (Gejvall 1952, "Luttra"), and that at roughly the same period Östergötland exhibited cases of individuals with a height of 1.90 m (Gejvall 1950, "Hällkistan vid Svemb i Ödeshögs socken"). What is the relationship between the skull suture closure and the coalescence of the epiphyses of two individuals of the same age from these two localities? — Much of this is associated with a continuous change; in the American investigations on skeletons from the battlefronts of the last World War, we have succeeded in acquiring some knowledge of a few of the final stages of this change, but its earlier phases are still shrouded in darkness. In the case of domestic animals this still continuing 'domestication' is receiving intensive study; the problems concerning the most important of the farm animals, Man, and his 'self-domestication', await their turn for investigation, and the material is not lacking.

4. AVERAGE POPULATION SIZE

It is tempting to try, on the basis of our skeletal material, to calculate numerically the **average population size** at Västerhus or, more precisely, the average size of the community that used the cemetery. It is, however, impossible to give any such figure with any reasonable degree of accuracy, because it depends on a whole variety of imponderable factors, such as the length of the period during which the graveyard was in continuous use, the mortality rate during this period, the possibility of loss of skeletal parts, etc.

In the section of this book dealing with social history, we shall try to develop the arguments that could lead to an attempt at estimation of the period of use of the churchyard. It must suffice here to explain how the author considers that calculation of the average population should be assessed.

Thanks to the official statistics, our knowledge of the mortality rate in different age groups in this country extends far back into the past.[1] Table B2 (Vital statistics, p. 38 ff.) in "Historical Statistics of Sweden" shows that the number of deaths per thousand was extremely high in some years. The following are some examples:

1749	28.14 ‰	1773	52.45 ‰
1758	32.37	1788	33.87
1763	32.37	1809	40.09
1772	37.41		

[1] Historisk Statistik för Sverige (Historical Statistics of Sweden), 1955.

A comparison, insofar as one can reasonably be made, between the mortality among different age groups — especially Inf. I and II and Juv. — in the latter half of the 18th century and the beginning of the 19th on the one hand and our age groupings from the Västerhus material on the other, results in our at least being able to venture a calculation of a suggested average age for Västerhus. On the assumption that our skeletal material represents a normal population and not merely a selection, and working on the basis of a mortality rate of 40 and 50 ‰ respectively we get the following equations: $\frac{X \cdot 40}{1{,}000} = Y$ and $\frac{X \cdot 50}{1{,}000} = Y$, where X is the unknown number of the average population and Y the total number of burials per year. The analysis in chapter XI shows that it is hardly possible to estimate the length of the period during which the burial ground was in use to within less than about 50 years. If, by way of experiment, we assume a period of use of 200, 250 and 300 years, the resulting number of interments per year would be 1.8, 1.5 and 1.2 respectively.

We thus arrive at a possible average population as follows:

		Length of use of churchyard in yrs.		
		200	250	300
Mortality: 40 ‰	Individuals:	45	38	30
Mortality: 50 ‰	Individuals:	36	30	24

5. SEX DIVISION

Let us now examine in detail the sex division of the gravefield, for which the method of determination has been described in chap. II:B. The general plan, Pl. 6, shows a clear segregation of the adult burials, with women's graves to the N and men's to the S of the church. A few exceptions should be noted. Grave 53, belonging to one of the earliest phases and lying c. 3.5 m due N of the choir, contained the skeleton of a young man (25—30 yrs). His forehead had been smashed by a powerful slash or blow, so we can assume that he met his death violently. This came to light during the attempt to restore his cranium. The various fragments of the frontal bone, separated at the time of burial, had acquired different shades of colouring from the soil. This same grave might also perhaps have been disturbed by other adjoining interments, since it lies in an area of profuse burials; the fact remains, however, that a fatal blow had struck his forehead. Further, a partially disturbed grave underneath the SW corner of the nave (206) yielded the defective skeleton of a woman over middle age, a male grave (12) was found due N of the tower and, somewhat apart from the other interments, four women's graves were lying outwards from a point 3.75 m due W of the SW corner of the tower (224—227).

The boundary between male and female burials on the E, round the apse, is somewhat fluid; thus, for example, grave 89 contained 2 men (a and c) and three women (b, d and e). After passing the female grave no. 96 to due E, we again find women's graves out towards the SE, viz. nos. 97a,b, 98a and 101. With these exceptions, the sex division of the graves is strictly observed.

The odontological literature[1] contains statements to the effect that sex differences in size should occur in the first incisors of the upper jaw (1+1). The fact that this differentiation can be correlated with statistical certainty with the earlier first milk incisors (01+01), more strongly in girls than boys, has recently been demonstrated by an investigation of Lysell's (1957).[2] We must now consider the way in which this feature could assist us in our attempts to elucidate the sex division among the adolescents and children in the Västerhus material.

The measurements used in this connection are the mesiodistal diameters of the first incisors, and first we must measure those of such adults as possess undamaged, unabraded incisors. They total only 31 (16 male and 15 female). The average difference in the mesiodistal breadth between these morphologically sexed individuals is 0.46 ± 0.20 mm; this, although not absolutely statistically significant, nevertheless implies a tangible tendency, pointing in the same direction as the other sex determinants.

The material includes seven young individuals aged between 13 and 20 years and possessing measurable incisors; to judge from their morphological character these must have been males. The average breadth of their incisors differs from that of all the adult women, although not in a statistically conclusive manner but the tendency is the same as in the previous instances.

Taking a cautious view, we may conclude from this that the ordinary sex determinations established for the adolescents and the adults are not contradicted by the evidence of the breadth of their first upper incisors. It follows, therefore, that dead children of 13—14 years of age, with the exceptions noted above, were buried according to their sex, the females to N and the males to S of the church.

What, now, is the situation as regards the corresponding tooth breadths, both the permanent and the milk ones, among the infants?

The total number of individuals with 1+1 available for study is 12 4—16 year-olds in graves 9—89e, and 7 2—4 year-olds and 28 4—20 year-olds in graves 100—221. The differences in tooth measurements between them, i.e. between those lying N and S of the church respectively, are negligible. Finally, as regards the first milk incisors (01+01), the material includes altogether at most 10 one year-old infants and 8 2—6 year-olds from graves 2a—97c for comparison with 14 each of the 0—1 and 1—6 year-olds in graves 102a—222. Their tooth breadths are characterised partly by a greater degree of variability and partly by higher measurements to N than to S of the church, i.e. the opposite of the evidence of the young and adult groups. The material is not, in fact, adequate for firm conclusions to be drawn, but in view of the proved correlation between the milk and the permanent dentition, it would not be surprising if, behind the insignificant difference between 01+01 to N and S of the church, there lies either an irregular division of the sexes, so that a child might be buried near whichever member of its family it was emotionally closest to, or a division opposite to that followed for the adult individuals, with boys to the N and girls to the S of the church.

[1] e.g. Jaurer, 1927.
[2] Lysell, 1957, pp. 571—78.

CHAPTER IV

Estimations of stature

Both older and more recent methods of investigation have been tested in our attempts to estimate the individual statures during life of the Västerhus inhabitants.

One procedure that has often been followed in studies of this kinds is that evolved by K. Pearson (1899); Dahr (1943a), for example, employed it to deduce the statures of the Stone Age folk at Västerbjers on Gotland. It was therefore natural that Pearson's system of calculation chould be tried, at least in a preliminary and experimental way, in connection with our present material.

Pearson based his calculations on the earlier data of Rollet (1889) and Manouvrier (1892), the latter being besides himself perhaps the most distinguished exponent of stature estimations of excavated or dessicated skeletal material. Pearson took as his basis the measurements of the long limb bones of the right side of the body, a fact that was unfortunately overlooked in both the 1928 and the revised 1957 editions of what is perhaps our most important anthropological handbook, "Lehrbuch der Anthropologie" by R. Martin and Martin-Saller respectively.

In 1937 Breitinger published his study of long bone lengths versus body statures in relation to living individuals. His material was considerably more extensive than Pearson's and comprised 2,400 German males. The average age of the individuals investigated was about 26 years. Carried out in vivo and using what were hardly accurately fixable points for his measurements, and that only on males, Breitinger's work, which until quite recently had to be accepted as the most readily available study on the subject, was not as exact as he perhaps had anticipated.[1]

Telkkä (1950) advanced one stage further towards a more realistic estimation of stature, but his own material comprised only 154 dead Finnish individuals, 115 males and 39 females; their stature was measured both in an extended position and subsequently after maceration and drying out had set in on the long bones, and the measurements were correlated with their heights. Telkkä's regression formulae provide information regarding the standard deviation, which lies between 5.2 and 4.0 cm. The Västerhus material has been estimated also on Telkkä's method.

It would take up too much space here to examine closely a large selection of other stature estimation methods that have been employed. For our third and last comparison we have chosen the technique evolved by Trotter and Gleser (1952). Their material is the most comprehensive to date and the standard deviation is consequently further reduced. Their investigations are based partly on American troops who fell during the Second World War in the Pacific theatre of operations, and partly on skeletal material in the Terry Collection of Washington University,

[1] Trotter and Gleser, 1952, p. 463 ff.

yielding long bone measurements of 568 white males and 55 negroes for whom the body stature in life is known. These investigations therefore provide a quite good picture of the differences in the proportions of the body height and extremity bone lengths of whites and negroes, and in addition important information about the effect of asymmetries on stature estimations, etc.

Further refinement of technique has come about with the introduction of adjustment factors for age. Pearson was already aware that his comparatively restricted material included "as many old individuals with a stature above as below the median stature". His estimated average stature for 26 males over the age of 59 lay 1.77 cm below the corresponding estimate for 24 males of under 60 years of age; the corresponding difference for the older group of females was only 0.04 cm. Trotter and Gleser's adjustment for age was obtained by the formula $0.06 \cdot (\text{age at death} - 30)$ cm[1] and was drawn from the stature obtained from their tables. The formula was deduced from a table drawn up by Trotter and Gleser showing the age-stature-bone lengths correlation of material from the Terry Collection. As far as the Västerhus individuals are concerned, the significance of this must necessarily be reduced in view of the unavoidable uncertainty about the age determinations of the material (cf. chap. III). This implies a downward shifting of the body stature by between 0.5 and 2 cm.[2]

The individual and average statures of the Västerhus population have thus been estimated according to the methods of four authors in three works: Pearson, Telkkä, and Trotter & Gleser. The individual values are shown in tab. 3. It should be noted in this connection that the tables of the various authors quoted have been taken over direct and interpolation has taken place in that the stature measurements given in them have been adjusted upwards or downwards to the nearest whole cm.[3]

Using the Trotter and Gleser method the standard deviation lies round about ± 3 cm ($= 1\,\sigma$), which means, of course, that there is still around one chance in three that the true stature value lies outside the estimated value inclusive of its deviation.

For control purposes, estimations were also made on the basis of Trotter and Gleser's table 13[4]; this also gives the standard deviation resulting from calculations based on each type of bone. The differences between these results and those obtained from Trotter and Gleser's tables for a larger number of bone lengths (appendices to tab. 13) are negligible — usually less than 1 cm.

Comparison of the results achieved by applying the various methods mentioned above shows that, with few exceptions, Pearson's method gives the lowest, Telkkä's a slightly higher, and

[1] Trotter & Gleser, 1952, pp. 465, 473, 479 and ff.

[2] The first issue of the Journal of Forensic Medicine published in Cape Town includes an excellent summary by E. N. Keen (1953) of the whole of the major literature in the field of stature estimation. Keen maintains that the method evolved by Trotter and Gleser and their regression formulae are the best yet available, but he also insists that no sure technique can be devised so long as no specific formula is available for the particular population from which the individual or individuals derive whose stature it is intended to estimate on the basis of their long bone lengths. This view is indeed supported by diagram Plate 7 referring to this chapter.

[3] The following is an example of estimates of stature obtained by the various methods described above:
Västerhus grave 116a, containing a male with an estimated age of 30—35 years (cf. material description, code section). Calculations are based on the maximum length of the right humerus, 356 mm, and the left humerus, 352 mm.

I. Ad modum Pearson: $70.641 + 2.894 \cdot 35.6 = 173.7$ cm

II. Ad modum Telkkä: $169.4 + 2.8 \cdot (35.4 - 32.9) = 176.4$ cm

III. Ad modum Trotter & Gleser: $3.08 \cdot 35.4 + 70.45 = 179.5$ cm (no correction made for age).

[4] Trotter & Gleser, 1952, p. 495.

Trotter & Gleser's the highest stature values. The difference on average throughout the whole material between the estimates of stature calculated according to Trotter and Gleser and Pearson respectively is 4.7 ± 1.06 for males and 4.9 ± 1.45 cm for females or, in other words, the more recent method based on a larger number of known body statures gives values c. 5 cm higher for both sexes. This is of some relevance to the subsequent discussion.

It is an established and much-discussed fact that there has been a striking increase in the average stature in this and neighbouring countries during the last hundred years, as is well known from the comprehensive measurements of Retzius and Fürst (1902), Lundborg and Linders (1926), and Hultkrantz (1927). The subject has also been discussed in two papers by Lundman (1939, 1940), from the latter of which we must here take note of certain statements. We must also bear in mind that up to the present only comparatively few estimations have been made of the stature of female individuals.

The paper of Lundman's to which we have just referred contains a survey in tabulated form of the average increase in body stature in Sweden, Norway, Denmark and Finland; it mainly comprises, with the exception of Finland, information from the Stone, Bronze and Iron Ages, the Medieval Period, and the years 1855, 1895 and 1939. The estimates given in this diagram up until the Medieval Period are presumably based on the earlier techniques, probably of Manouvrier and Pearson and possibly in some instances on Breitinger. Lundman expressly warns against placing too much reliance on the stature estimates given for the earlier periods.

From a psychological point of view, it is interesting to observe that two diametrically opposed theories are commonly expounded on the subject of stature in the past. One is founded on reports of extremely large skeletons deriving from the large stone cists, and tends to regard the Stone Age inhabitants of this country as being a tall race. The other view is usually put forward by those who, with reports of the increase in stature during the last decade in some demographic or anthropological paper fresh in their minds[1], are led to the natural conclusion that still shorter statures must have existed in prehistoric times.

The problem can be solved only on the basis of more material. In both the earliest and the present living populations of this country both extremely tall and extremely short individuals are to be found. In a stone cist excavated by A. Lindahl and the author (Lindahl, 1949) at Svemb in Ödeshög parish, Östergötland (S.E. Sweden), there occurred the skeleton of a man who had been c. 190 cm tall (Manouvrier's method)[2]; the estimated statures of the other individuals, about 20 in all, varied from 165 to 175 cm. Another example is to be found in the celebrated double grave at Bergsvägen in Linköping, (Lindahl & Gejvall, 1955c) which yielded the best preserved skeletons from the Boat-axe period from this country yet known, where the estimated body stature of the male individual lies between 177 and 180 cm (Manouvrier's, Pearson's and Telkkä's methods) and that of the female at 162—163 cm.

Low statures from the neolithic period are also recorded in the literature. Thus Dahr (1943a)[3], in his study of the skeletons from the Stone Age settlement at Västerbjers on Gotland, found that the average stature of the women was 153 cm (Pearson's method). The low standard deviation shown by the values of the measurement series for this material in general could be a reason for

[1] Lundman, 1940, tab. 2, p. 4.

[2] Lindahl, 1949, p. 7.

[3] Dahr, 1943, p. 133.

interpreting this as being an example of community isolation. Could this also perhaps, as in the case of vertebrate animal populations of small size in islands, militate in the long run towards a diminution of stature?[1]

The shortest body stature that the author can recollect finding in any estimations carried out out on Swedish material also derives from the Stone Age, more exactly from a peat-bog find at Rogestorp in Luttra parish, Västergötland (S.W. Sweden), (Gejvall, Hjortsjö and Sahlström, 1952a), where the long bones of a 20—25 years-old woman represented a stature of only 145 cm (Pearson's method). The Luttra woman is nowadays usually known under the name of "The Raspberry Girl" (Hallonflickan) because of the large numbers of raspberry seeds which were found during excavation in the region of her stomach and probably represent the remains of her last meal. Subsequent investigations of the skeletal material recovered from neighbouring localities resulted in the discovery in a stone cist from the same period of no less than 12 female skeletons. The cranial forms of all of these conform very closely and in some instances the facial skeletons display virtually exact morphological identity. We are here presented with a case of a localised smallness of stature. The above examples will suffice to demonstrate the fact that inadequate material may not infrequently give rise to fundamental interpretations which subsequently require drastic revision.

To return to the above-mentioned table of Lundman's[2], we find that for the period before direct estimations of stature were made, i.e. before 1855, only negligible variations have been registered throughout the long period of time from the Neolithic right up to and including the Middle Ages, at least as far as Sweden and Norway are concerned. The situation as regards Denmark is somewhat different in that the body stature recorded in the table for the Stone Age there is higher and that it decreases during the Bronze Age. Both of the two anthropological types that predominate during the Megalithic Period in Denmark, the dolichostenocranial of (British) Long Barrow type and the more hypsicranial of originally "Corded Ware" type but of a taller stature than that found in the classic Corded-Ware material from Silesia and Bohemia, attained a stature greater than the average for the period, 172.4 cm (ad modum Pearson).[3] The brachycranial element in the neolithic population of both Denmark and this country possessed an average stature of 168.2 cm.[4]

In the following period the body stature is stated to have decreased. The Bronze Age is, of course, universally interpreted by professional anthropologists as associated with an advanced level of culture. Consequent upon the practice of cremation to an ever increasing extent from about 1200 B.C., the skeletal material on which estimations of stature could be made become progressively more uncommon and we are therefore fully justified, like Lundman, in questioning the reliability of the stature estimations that are given for this period.

In order to throw further light on the whole problem of making assessments of stature — according to Coon, one of very considerable technical difficulty[5] — the author has in the diagram, Pl. 7, re-calculated ad modum Trotter and Gleser the Västerbjers skeletons which Dahr

[1] Cf. e.g. Lundholm, 1947, p. 214 ff. This paper is commended, not least for its exhaustive bibliography, but perhaps primarily because of the wide vistas opened up by it.

[2] Lundman, 1940, p. 4.

[3] Coon, 1939, p. 122.

[4] Ibid. p. 123.

[5] Ibid. p. 242.

had assessed by the Pearson method, and the values thus arrived at are compared with those of the Västerhus individuals estimated in the same way. The Stone Age males barely attained the body stature given by Lundman[1] for the same period, namely 164.5 cm, the figure probably lying about 1 cm lower. We thus see that the average stature of the Västerbjers males lies at 167.9 and of the females at 156.9 cm, which by comparison with an estimation following the Pearson method implies an average increase of somewhat more than 4 cm.

We are therefore justified in asking ourselves whether it does not follow from this that we must revise fundamentally our interpretation of stature estimations from the period before direct measurements are available. This is indeed the case. As a result of research in this field it has been shown that, to put the matter frankly, the more modern methods of estimation applied to the same extremity bones yield ever increasing values for the stature. And indeed not even direct measurements of stature are reliable, for these may vary for one and the same individual by as much as 2.5 cm, as Backman (1923) has shown. An individual is for instance taller in the morning than in the evening.

From the point of view of technique, Trotter and Gleser's procedure is the one to which least objection can be raised up to the present, and our estimations of the Västerhus community based on their method result in the astonishingly high average stature of 174.3 cm for the males (var. 185—164) and 161.6 cm for the females (var. 171—144), cf. tab. 3. Let us give two comparisons immediately with modern times: Lundborg and Linders[2] quote the average stature in Jämtland for 1922—24 as 173.17 and for 1897—98 as 171.68 cm, both values being for males. The most recent figures on average statures (AS) from the district of Jämtland show high values for Hällesjö from where the material contains only natives since many generations[3].

In Wagner (1926) we find a comparative study of estimations of stature, assessed on the earlier used methods, by Schreiner, Guldberg and Wagner. This demonstrates the fact that the Nor-

[1] Lundman, 1940, tab. 2.

[2] Lundborg and Linders, 1926, p. 63.

[3] *Some anthropometrical figures from the district of Jämtland, kindly placed at the author's disposal by B. Lundman, Uppsala, September 1960.*

Measured by	Region	Social group		Head-L-B-I*	n	Stature, cm	n
Lundman 1953	*Lockne* (partly originating from neighb. parishes).	♂♂,	mostly farmers	77.8±0.3	138	173.5	134
"	"	♀♀,	"	79.3—0.3	123	161.5	125
"	*Hällesjö*** (only natives since many generations).	♂♂,	"	77.6	180	174.6	178
"	"	♀♀	"	78.55	153	162.15	157
"	*Ragunda* parish (partly some intermixture with neighb. parishes).	♂♂	"	77.9	26	173.8	27
"	"	♀♀	"	79.4	25	162.1	26
After Fürst-Retzius in Flodström's figures (1926), calculated by Lundman, (unpublished).	*Sunne, Brunflo, Rödön*		conscripts	78.2 0.1 over the mean for Sweden	85	170.2 0.7 cm under the mean for Sweden	

* In order to get the cranial L-B-I, usually 2 units are subtracted from these figures.

** In 178 ♂♂ from Hällesjö the max. length of the head was 198.9, the max. breadth 154.6 mm.

wegians of the Middle Ages — though we are here dealing with a later medieval period than at Västerhus — had an estimated average body stature of 167.8 and 166.6 (males, two different groups of material) and 156.1 and 154.8 cm (females, also two groups). The corresponding figures in the same table for Norwegians in the Viking and Early Iron Ages are 171.1 (♂) and 156.0 (♀) respectively.

In his next table Wagner shows that the estimated statures for Norwegians of the medieval period lie very close to those derived from skeletal material from community groups much further to the south (the "Reihengräber" folk in Bavaria according to Lehmann-Nitsche, the "Reihengräber" community of Tettlham according to Ried, and the medieval skeletons from Paris according to Rahon). All of these estimations were apparently obtained by Manouvrier's method which was thought by Wagner to be the most satisfactory one. We know that this method is to be recommended especially for the long bones of individuals of medium height, but where extremely tall or short individuals are concerned it produces results which diverge strongly from the true body stature.[1] Control estimation of the stature of some of the Västerhus skeletons from the lengths of their long bones on the Manouvrier method showed, even for individuals with a stature close to the average for the whole material, a divergence of between 4 and 2 cm from the corresponding values arrived at by the use of Trotter and Gleser's method, the former being lower. This, of course, to some extent reduces the difference in stature between Wagner's Viking Age Norwegians and our early medieval inhabitants of Västerhus.

Guldberg (1901), who also used the Manouvrier method of estimating stature, gives the following figures for his Trondheim skeletons from measurements of the femora taken in their natural positions (Martin's measurement no. 2): from an average femoral length of 457.7 mm for 28+33 male thigh bones, both right and left, he obtains a stature of 1.666 m, and from 11+12 female femora a stature of 1.548 m. The corresponding stature estimations ad modum Trotter and Gleser would be 171 and 157 cm respectively, i.e. about 4 and 2 cm higher in each case.

Apart from purely systematic sources of error, which quite naturally are unavoidable in early methods of estimation, there are many others which lie concealed in the material itself. It may be a matter of differences, such as those that distinguish negro from white, in the length of the trunk or between the two long bones in each pair, or perhaps it may be one of the factors that affect the chances of using the evidence from skeletons from modern living communities as a guide to knowledge of the stature of individuals who died long ago, factors such as the effect of proportional distortions caused by assymetries, whether these be due to modifications or genetic causes.

The diagram (Pl. 7) suggests just this; it shows the differences in stature estimations based on different bones for two communities, one from the Stone Age on Gotland (Västerbjers) and the other from Västerhus, and obtained as a result of calculations based on Pearson and Trotter & Gleser respectively. The deviations shown here from the average values of stature based on different types of bone — and this does not refer to the fact that, for example, femora and tibiae on Pearson's method give a higher stature for the Stone Age material but a lower one for Västerhus — these deviations cover and must cover a whole variety of sources of error concealed within

[1] Martin-Saller, 1957, p. 593

the material and which certainly cannot be identified and overcome within the near future[1] (cf. also tab. 4).

We are therefore right in adopting a certain degree of scepticism about earlier interpretations of conditions regarding stature among prehistoric and medieval populations. The marked upward swing in average stature during the last hundred years cannot be denied, but what is the situation in regard to reports about the periods before direct measurements of height were taken?

Among the reasons put forward for the increase in stature in later times are the breakdown of conditions of isolation, better standards of living and improved housing. The same circumstances are also claimed to be responsible for the rise in the average life span. How much greater, therefore, must the effect have been of such circumstances on general constitution, stature and length of life during periods when social stratification was still strongly accentuated and serfdom still prevailed?

The problem can be put in still wider perspective if one works on the reasonable assumption that the countryside had only recently been settled and was divided up among a number of larger or smaller communities living in mutual isolation. Selection could easily take place among each or any of these separate communities, which, under favourable external and internal circumstances, might lead to an increase in the average stature. Under unfavourable conditions, such as heavy social oppression, etc., stagnation or even actual retrogression might set in. These isolated communities would gradually have increased and developed in the course of time and — in some outlying parts of the country not until very late times — they became intermixed. Any such community might at any time be able relatively rapidly to respond to a rise in its cultural level with an increase in bodily stature. This view of the problem seen in conjunction with the fact that the skeletal material at our disposal from the various prehistoric periods is rather limited and to a certain extent at least must be interpreted as a selection, explains fairly satisfactorily the misconceptions about high and low body statures in prehistoric times which we quoted by way of introduction.

It might therefore be profitable, before concluding this chapter, to examine more closely the distribution of the individuals of different stature in the various parts of the churchyard. This study shows that the tallest women at Västerhus, i.e. all those with a stature above the average (Tr. & Gl.) lie buried from the angle between the N wall of the choir and the nave (i.e. graves

[1] Since the above was written, Trotter and Gleser, (1958) have again taken up the problem of estimations of stature on skeletal material, and in a new, extensive study have drawn up still more accurate correlations between stature estimations and the lengths of different bones. In the same paper they have also stated outright what the author has hinted above, and in particular the fact that one must have genetic information about the community one is studying. We may also cite the following: "The evidence suggests further that different equations may be needed for the same racial group in successive generations. Thus present-day formulae may introduce a systematic bias in estimates of stature of individuals of past generations. These facts, admittedly, would make it difficult to decide what formula to use in certain situations. However, the investigator is only deceiving himself when he attempts to solve his dilemma by averaging equations obtained at different times and/or from different races, and believes that the error of estimate will be thereby reduced. Such a procedure actually increases the error of estimate over that of the most appropriate equation since additional error is introduced through the equations which are not pertinent". In this work Trotter and Gleser are dealing with the skeletal remains of known individuals for whom information is available on their stature, age and "race". Their material comprises troops from the Second World War and the Korean War, both negroes and whites, as well as smaller series of mongoloids, Mexicans and Puertoricans.

One important conclusion arising from Trotter and Gleser's investigations, which has also been mentioned already in chapter III above, is that "stature and its relationship to long bone lengths are in a state of flux, since some individuals over 21 years of age with given bone lengths are taller today than were individuals six to ten years ago with the same bone lengths".

60, 62, 63, 64) eastwards round and close up against the outside of the apse (graves 76, 79, 89b, 89d, 90a, 91, 93a, 93b, 94a, c, 95, 96, 97). In addition, other similarly tall women are found in an outlying series of deep-dug graves northwards from grave 60, namely in graves 55a, 56, 50, 51, 52. All these burials should belong to the earliest structural period of the church (cf. also chap. XI). A few other women above average height have also been buried in graves nos. 1 inside the tower, 17 to the N of and lying parallel with its N wall, and 19, 23 and 25 in the area to the N of this. Finally, women with an estimated stature of over 162 cm lay in grave 188 and in the peripherally situated interments nos. 224, 226 and 227 to the SW of the tower.

A distinct tendency can thus be detected towards assigning to the taller women a place close to the church, round the apse, and in the angles of the nave and choir and the tower and nave (cf. also chap. X). In several of the latter cases, too, the graves are of a superior construction.

Tall men were found partly in deeply-dug graves close up against and to the S of the apse and choir (graves 111, 115a, 116, 117), partly in roughly parallel rows running southwards from the S wall of the nave (graves 153, 155, 156, 157a, 158, 159 and 160, and 171, 172, 175a, 178, 164, 165, 167b, etc.), partly also in similar situations to the tall women, in rectangular graves up against the S wall of the nave, e.g. burials 182, 208, (205a), and finally within the nave itself – graves 3, 4 and 5.

Closer examination of the crania from graves 172, 175 and 178 (belonging to individuals with estimated statures of 179, 175 and 178 cm respectively) shows that the first two were each killed by a fatal sword wound and no. 178 by an equally fatal blow delivered from some other, blunt instrument (cf. fig. Pl. 26).

Male individuals with a shorter stature, under 169 cm, came from graves 105, 135, 142, 166a, 190 and 195a, all, apart from 105, lying further away from the church than the tall men. We might also mention as a matter of curiosity that (the only hydrocephalic?) a youth who died between the age of 16 and 18 (cf. chap. VIII on Pathology), was buried out in the extreme SE corner of the churchyard (grave 128).

Lastly, women of short stature are represented from graves 11, 36, 84 and 106; nos. 11 and 84 are unquestionably peripheral, while the other two lie closer to the church.

If we are right in assuming that a number of skeletons of adult individuals have been lost as a result of the damage suffered by the NE and E parts of the burial area, and that to judge from the foregoing these individuals were probably of shorter stature than those closer to the church, this would imply a slightly lower mean stature for the whole material than that calculated above.

One further general observation should finally be made, that the statures of the women apparently displayed a greater variability than those of the men.

CHAPTER V

Certain metrical characters of the Västerhus material compared with their equivalents in other material

One of the consequences of the fact that there are a number of features in both the cranium and the facial skeleton that are common to all individuals within the genus Homo, is that within any extensive series of measurements and indices derived from a group of skeletal material some of these measurements must be correlated. There are, of course, limits to the extent to which this is true. There is still no definitive answer to the serious difficulty that faces one in anthropometry of selecting from the wide catalogue of measurements recommended and employed on both large and small groups of material the ones that are most valuable from a taxonomic point of view. On the contrary, however, it could be maintained that the number of measurements is still on the increase, so that we might look forward to the real possibility of being able, with the help of the measurements already produced, to give a plastic, i.e. a three-dimensional, presentation of the human skull. Even on the assumption that this is an ideal worth striving for, its accomplishment can least of all be expected to be achieved by metrical means — that would imply impossible demands on time and labour.

One of the most extensive investigations that has been made into the question of assessing which of the osteometric characters in current use are burdened with the lowest load of non significant values, is that carried out in 1950 on living races by Miriam J. Tildesley and on crania by A. J. van Bork-Feltkamp. Both these authors, following a recommendation of the Second International Congress of Anthropological and Ethnological Sciences at Copenhagen in 1938, examined a very extensive collection of measurements with the following problem in front of them: "Supposing the variability of a character were the same in all races with a standard deviation equal to its estimated mean intraracial value σ_{ir}; and supposing samples of 100 were taken from pairs of different races at random; how big a proportion, in the long run, of differences between sample means would fail to indicate a difference between the populations from which they were drawn?" The results of these studies show that roughly similar conditions obtain whether the measurement series be derived from living or from craniometric material.

The selection made by the present author from the metrical series from the Västerhus crania and used in the following pages and for comparisons with 25 large and small groups of cranial material lying both close to and far from it in time and space, comprises those measurements from the largest of van Bork-Feltkamp's series that are demonstrably the best. This selection should be considered as experimental; its immediate intention is to examine the comparative

material, in other words, the populations that are listed in the chapter on Material earlier in this book, on the basis of a limited number of measurements and those indices that involve one or more of these measurements. These populations have been selected to represent both the closest and something of the furthest removed, both geographically and chronologically, of what may from an anthropological point of view be termed "Nordic" in the strict sense of the word. In addition, we have taken one example of an isolated Eskimo community from Greenland (25)[1] and one of Scandinavian emigrants to Greenland (14). The primary result that we may expect to achieve from such a comparative study is whether and to what extent the mean values and standard deviations of the relevant measurements and indices for the Västerhus crania differ from the corresponding mean values for each of the other comparative populations. The interpretation of the anthropological significance of statistically established differences of such a kind involves extremely complicated problems. This, at least, however, we may dare to presume, that any significant differences detected in relation to the same measurements and indices within the Scandinavian material are a measure of differences in the form of the cranium and the facial skeleton caused or affected over a longer or shorter period of time by genetic and/or environmental conditions, with all that this may imply.

Bork-Feltkamp arranged the biometric series into two groups based on the size of the material, as follows:

1. "Characters for which more than 153 means were available" and
2. "Characters giving less than 129 means".

The first category comprises nine measurements, and these are employed here for the comparisons with Västerhus. They begin with the maximum skull breadth (Martin's No. 8), which according to Bork-Feltkamp yielded the lowest (14.5 %) "estimated proportion of non significant differences between means of racial samples", followed by measurements nos. 45, 1, 48, 17, 54, 9, 5 and 52, the last with an "estimated proportion etc." of 26.6 %. These measurements will be found in the comparative tables (Tables 5 and 6)[2], which also show which of the indices have been employed in the comparisons. These total ten in number, and each of them includes either two or one of the absolute measurements from van Bork-Feltkamp's tables.

The mean values and their standard errors as well as the standard deviations for all the 25 groups of comparative material have, insofar as the relevant measurements are available in the literature, been extrapolated or calculated for the nine measurements and ten indices concerned. From these figures were calculated the difference between the means, for the measurements in the Västerhus material, the same for the equivalent measurements in the comparative material, and the differences between the corresponding deviations in respect of each of the measurements in question in the comparative material and at Västerhus as well. Finally, the significance levels were worked out for the differences between the means for Västerhus and each of the groups of comparative material; these are shown in table 5. In these calculations as already mentioned no account was taken of any differences other than those with a significance level of ≤ 0.001 (underlined in tab. 5). We must now examine this table in detail.

[1] The numbers in brackets refer to the reference number of the various groups of comparative material in tables 5 and 6. For literature refer to chap. II.

[2] Errata: In tables 5 and 6 the sign > should be <.

First, however, the author regrets the fact that the various groups of comparative material are incomplete in respect of some of the measurements in question and the indices based on them. Table 6 shows the specific lacunae in the information available.

To take first the three cardinal skull measurements and their indices, viz. the maximum breadth (8), maximum length (1) and basi-bregmatic height (17), L-B-I, L-H-I and B-H-I. These are available for all the groups of material considered here with the exception of the women in the Gamleby, Nyby and St. Anna complex and from the war cemetery at Korsbetningen in Visby (where no female burials would be expected). The values for *skull length* in the Västerhus material are higher than those for the medieval Tröndelag group and the Norwegian Lapps (both sexes) and "Norse Settlers on Greenland" (females).

As regards *skull breadth*, the Norwegian Lapps are broader (males and females), while the Iron Age Gotlanders from Vallhagar (females), the modern group from Jönköping (males), Dragsmark (females), and the Inugsuk population from the Middle Ages (both sexes) are narrower on statistically established values.

Martin's measurement no. 17, the basi-bregmatic height or, as it is usually known, the *skull height*, is greater in the Gudhem crania (males), Vårfrukyrka in more recent times (males), Clason's Gotlandic crania from the Iron Age (females), among the Gotlanders from Vallhagar and Västerbjers (males, from the Iron and Stone Ages respectively) and within the isolated Inugsuk community (both sexes), but statistically established lower values than those for the Västerhus crania are represented by the medieval Tröndelag group, Norwegian Lapps (both sexes), and Norse Settlers on Greenland (males).

The figures for the *L-B-I* differences show that the medieval Tröndelag folk (females), Norwegian Lapps (both sexes), the Kongahälla group from the 16th century (females) and Norse Settlers (females) are demonstrably shorter-skulled, while Jönköping and Ö. Ågatan (males), the Gotlandic females from Vallhagar and the Inugsuk folk (both sexes) have relatively longer skulls than at Västerhus.

The *length-height index* shows higher values than at Västerhus for Clason's Gotlandic material (males) and for Inugsuk (both sexes).

There are many deviations as regards the *breadth-height index*. This has higher values for the crania of more recent times from Jönköping, Vårfrukyrka, Ö. Ågatan and the Cathedral cemetery at Uppsala (males), the females in both groups of Iron Age material from Gotland, the males in Clason's material and in both sexes at Inugsuk. Lower B-H-I values than at Västerhus derive from Norwegian Lapps (both sexes), Icelanders (900–1550) (females), Norse Settlers (males), Ö. Ågatan (females) and the Gotlanders measured by Clason (males).

In connection with these three major cranial measurements, length, breadth and height, and the cranial indices, the available information on skull capacity at Västerhus and in the groups of comparative material used here is of interest. Both the male and the female skull capacities at Västerhus are established as greater ($t=6.39$ for males, 5.26 for females) than those from the Tröndelag group, which lies close to them in both time and space. These differences are also confirmed if Pearson's method of calculation[1] is used (cf. Table 17) (t for males$=5.19$, t for females$=7.42$). In all these cases $P<0.001$. On the other hand, there are no significant differences

[1] Martin-Saller, 1957, p. 473.

in relation to the cranial capacities of the Norwegian Lapps as measured by Schreiner (the differences for the mean values are 25.8±14 ml for males and 8.3±14 for females). The differences in relation to the "Norse Settlers on Greenland" which overlap Västerhus chronologically (985–1450 A.D.) are well established (220.6±12 for males and 98.76±24.2 for females). Among the other groups of comparative material where the skull capacity was measured by filling with millet, we may quote Inugsuk, from which no significant differences are indicated.

To return to the absolute measurements given in table 5, it can be seen that the anterior forehead breadth (no. 9) in our Västerhus material is greater than in the medieval Tröndelag group (males and females) and greater also than among the Inugsuk males. The reasons for this will be dealt with in detail in chapter VII; they are probably to be sought in the high frequency of a persistent metopic suture at Västerhus.

The other significant differences need not be discussed here at length; they are shown by table 5.

The inadequacy of the groups of comparative material is readily admitted; in some cases the total number of individuals included is too small, others suffer from the paucity of the measurements provided. The conclusions that are here drawn from the summary table 6 can therefore, despite the high significance level, refer only to the rough outline of craniometric characterisation, and must be taken with the considerable reservation that future material may necessitate drastic alterations. The author will content himself provisionally with the following three points:

1. The largest totals of significant differences in relation to the Västerhus material, in both absolute measurements and indices, are found in the groups of comparative material nos. 1, 2, 9, 10, 14, 22, 23, 24 and 25.

2. The lowest totals of significant differences in relation to Västerhus are provided by groups 5, 6, 7, 8, 11, 12, 13 and 15 to 21 inclusive.

3. Material groups 3 and 4 hold a position somewhere between categories 1 and 2. This implies that craniometrically the skull material from the Middle Ages in S. Sweden (Visby, Åhus, Lund, Gamleby, Nyby, St. Anna, Visby Korsbetningen I, II, III) does not differ significantly from that at Västerhus — insofar as the measurements and indices used here are concerned.

It is also apparent, despite the small total of measurements available for the cranial material from the cemeteries of more modern times (Jönköping, Vårfrukyrka, the Cathedral cemetery and Ö. Ågatan in Uppsala, Dragsmark), that both absolute and relative values are represented which indicate significant differences.

The divergencies from Västerhus steadily increase, too, as one goes backwards in time from the Early Middle Ages; this is shown from the comparisons with the Gotlandic Iron Age and Stone Age material from the Vallhagar, Visby and Västerbjers cemeteries respectively.

Further, it should be noted that there are a large number of significant differences from Schreiner's Norwegian Lapp material and also from the medieval isolated community of Inugsuk on Greenland.

Finally, it remains to note that, by comparison with the crania from the nearby Trondheim region, deriving from medieval cemeteries slightly later in date than Västerhus (14th–16th centuries), and also with the Icelandic cranial groups (from 900–1550 and 1000–1050 respectively), there are a number of statistically confirmed differences in both absolute and relative values, (cf. chapter VII).

The most interesting of all these divergencies from our material in the present context are, of course, those that are to be found in these last two instances, the Tröndelag and Icelandic groups. The following significant differences in both relative and absolute values from the Västerhus material are immediately apparent:

a. The male crania at Västerhus possess a greater bizygomatic breadth, maximum skull length, basi-bregmatic height and anterior forehead breadth than in the Tröndelag material; by comparison with the male Icelandic crania, the differences are confined to the anterior forehead breadth and the orbital height, the former being smaller and the latter considerably greater among the Icelanders than in the Västerhus population.

b. The female crania from Västerhus have a greater absolute length, are higher, (have a greater nasal breadth) and anterior forehead breadth than those of the Tröndelag material; no other differences (of significance level $P \leq 0.001$) are found vis-à-vis the contemporaneous Icelandic cranial material as regards the measurements used here.

c. The indices of the male Västerhus crania indicate a relatively broader forehead region but lower-set eye sockets than among the male Tröndelag population; there are no significant differences from the male Icelanders (4), but the male crania in Skeljastadir show a lower transverse fronto-parietal index than the male ones in Västerhus.

d. The indices of the female crania from Västerhus show that they are relatively longer, narrower and higher in relation to their breadth, but possessing eye sockets set lower by comparison with those from Tröndelag; (their breadth-height index is also somewhat higher than that for the Icelandic females from Skeljastadir.

CHAPTER VI

Longitudinal asymmetries in the shaft bones and clavicula

The collection of excavated and reconstructed shaft bones from the Västerhus population is both extensive and reliable enough to justify our exploiting the lateral differences that can be detected in a brief commentary. The section on the Material describes the method used for measuring the extremity bones of the adult individuals. The lengths of the diaphyses of shaft bones belonging to children and adolescents were also recorded, as is shown, for example, in the material-code. In every instance the length is exclusive of the epiphysis, because this was occasionally either missing or preserved only distally or proximally.

The comparisons that could consequently be made between bone lengths on the two sides of the body relate, as table 7 shows, to the claviculae, humeri, radii, ulnae; femora, tibiae and fibulae. The physiological length is employed for the ulna, and the maximum length (following Martin) for the other bones. Right- and left-asymmetries and bone pairs of equal length are expressed separately in table 7 as a percentage of the total measurements recorded for each sex and for the infant-adolescent category.

In this way we have been able to make a survey of the lateral differences among 89.6 % of the male humeri in our material and 70.1 % of the female, while the corresponding proportion for children and adolescents is only 46.8 %. The reason for this lower figure is primarily that a larger proportion of small skeletal parts tends to be missed in the process of excavation (cf. chap. II). The figures decline in the case of the narrow, fragile fibulae to 47.8 % of the adult male total, 42.9 % of the female and only 20.9 % of those of children and adolescents.

The great majority of asymmetries, not infrequently resulting secondarily from badly healed fractures, occurred among the men; a number of such could also be established among the women as well as a couple of examples of very considerable lateral differences caused by developmental disturbances of a congenital or pathological nature (cf. e.g. individuals 51 and 66). These last are not included in the following discussion but do find a place in table 8 where they are distinguished by the symbol "p" together with a figure giving the extent of the asymmetry in mm.

The statistical analysis of the measurement tables in the Material section relating to the skeletal parts of adult individuals has been carried out in such a way that only the left bone in each pair is used for calculation of the mean values and their mean errors and deviations. As a result, the number of individuals for whom evidence of asymmetries could be studied is not the same as the sum total of individuals whose sex was determined or who are included in the tables of

measurements. The disparity is accounted for partly by the pathological cases and partly by those where the bones of one side or other are either missing or so defective as to make measurement impossible.

It will prove helpful if we first examine in some detail the basis on which divisions are drawn between different degrees of asymmetry — a technical question of some importance — in those papers in the field of skeletal measurement on which the author has had to draw in his search for the most suitable comparative material to Västerhus, and especially in the outstandingly important investigations of Ingelmark (1943, 1947b) and Telkkä's (1949) thesis. For his foetal material, for example, Ingelmark registers lateral differences of the order of 0.1 mm, stating at the same time that those with a value of over 0.5 mm may perhaps lie outside the margins of error of his method.[1] Telkkä, on the other hand, while not discussing this question in detail, presents his material bone for bone in a table in which the differences are calculated on a percentage basis for $+2$ to -2 mm, $3+$ to $+6$ mm and -3 to -6 mm (all figures inclusive) as well as $>+7$ mm and >-7 mm.

In neither of these cases, however, can the method of expression be accepted as fully correct. The asymmetries within a pair of thigh-bones, a pair of radii or a pair of collar-bones differ, of course, in magnitude in one and the same individual, and are therefore not directly comparable; the same is true of differences in one and the same pair of bones between a new-born baby and an adult. There exist as yet no adequate means by which this can be expressed, and it is worth pointing this problem out if only to indicate the extremely difficult questions that face one even at the initial stage of an investigation that is concerned with problems of laterality among a given population on the basis of skeletal material.

It is well known that there is a distinction between anatomical and functional (or functioning) laterality. Ingelmark's radiographic method[2] has made it clear, however, that there is some connection between the two, since in his experimental material of individuals between the ages of 6 and 20 years all the right-handed ones had longer right arms and all the left-handed longer left arms.

In his paper on the incidence of asymmetries in the long shaft bones among the Finns, Telkkä, as we have already seen when dealing with the estimation of stature (cf. chap. IV), gives an historical survey of research into the problem of laterality[3] in the fields of both zoology and human anatomy. In his bibliography he cites over 150 papers to which we must now add an original work by Blau (1946) "The Master Hand", an outstandingly important contribution by Trankell (1950) "Vänsterhänthet hos barn i skolåldern", Torgersens (1951 a) study on asymmetry and skeletal maturation and a smaller but valuable paper by Grodzicki (1952).

To these remarks about the great breadth of the subject we may just add one or two reflections on the conclusions arising from the Västerhus population before presenting our material.

Previous investigations justify, at least in broad terms, our translating the results of the skeletal measurements onto the functional plane, since it has been demonstrated experimentally that there is no great difference between anatomical and functional asymmetry. Thus, for example, functional left-handedness has in general an incidence of less than 10 %; according to Trankell[4],

[1] Ingelmark, 1943, p. 257.

[2] Ingelmark, 1947b, p. 77.

[3] Telkkä, 1949, p. 8 ff.

[4] Trankell, 1950, p. 14.

18 out of 26 different scholars have found the frequency value to lie between 1 % and 8 %. This refers to present-day material. Many of the divergencies between these results must be attributed to precisely those difficulties that we mentioned earlier, i.e. they must be due to variations in the methods employed for calculation. Osteometry ought to provide more exact results from well-preserved shaft bones than radiography, but the former technique cannot, of course, be applied to living material. Unfortunately, too, shaft bones of small children without epiphyses may sometimes have disintegrated in the soil, and their laterality can thereby become secondarily affected.

A large series of investigations apparently suggest that, from the time when he first became a tool-user up until the Bronze Age, Man was neither markedly right- nor markedly left-handed, although examples of each are known, but that for the most part he was ambilateral. It has been claimed that this can be established from detailed study of stone tools that have survived from many of the Palaeolithic and Neolithic Cultures. It was during the Bronze Age that there occurred the transition to the dexterity that in our time influences human laterality from early years of childhood onwards.[1, 2] According to modern science, there is an extremely fundamental genetic basis behind this change, in that right-handedness nowadays can be proved to be an hereditary Mendelian dominant. It is apparently equally clear that the incidence of left-handedness is also influenced by hereditary factors.[3, 4]

In the Västerhus material the most strongly developed lateral differences are found in the pairs of upper arm bones, which are characterised by a distinct right-asymmetry. The major examples of left-asymmetry occur in the claviculae and thigh-bones, while tibiae display a comparative predominance of right-asymmetry for males but a predominantly left-asymmetry for women, the children and adolescents showing a similar tendency. The fibulae show the opposite conditions to the tibiae, but not in children and adolescents.

All the incidence values will be found in table 7 and need not be recapitulated here. We should add, however, that circumstances at Västerhus conform in general to those found by Telkkä to obtain for his material.[5]

As stated by Ingelmark, the overwhelming majority of longitudinal differences in the lower extremity bones occur in the femora, where they rise in adults to about 2 cm. In skeletal material these differences usually lie between 0.5 and 1.5 cm. In his own investigations, including those of 1917 on the extremity bones of medieval skeletons, probably those of Swedish peasants,

[1] Blau, 1949, p. 25 ff.

[2] The upper arm bones in our best-known investigation on Stone Age material, that carried out by Dahr (1943a) on the Gotlandic skeletons from Västerbjers, c. 2000 B.C., also display, as far as the author has been able to state, a markedly high frequency of right-asymmetry, which conflicts with this hypothesis. We cannot discuss this further here, however.

[3] Trankell, 1950, pp. 261, 263.

[4] Ingelmark, 1943, pp. 241—42 and refs. cited there.

[5] Cf. Telkkä, 1949, tab. 3, from which the following figures are taken as examples of asymmetries of the humerus:

	n	R>L %	R=L %	R<L %	Author
Finns ♂	76	85.53	7.89	6.58	Telkkä
Finns ♀	24	87.50	8.33	4.17	Telkkä
Västerhus ♂	60	86.67	3.33	10.00	Gejvall
Västerhus ♀	54	87.04	3.70	9.26	Gejvall

killed in the sack of Visby in 1361, Ingelmark shows *inter alia* that the previously observed tendency for right-handed individuals to have longer left legs and the left-handed ones longer right legs is also supported by skeletal measurements. The same author puts forward an hypothesis on the origin of this so-called cross-asymmetry, showing it to be highly probable that it is the functional circumstances associated with the right and left extremities that lie behind the morphological extremity asymmetries.[1]

As far as this cross-asymmetry is concerned, our Västerhus material yields the following results. Of 96 adult (normal) individuals showing right-asymmetry in humerus (46 males+50 females), 54 are left-asymmetrical as regards the femur; 26 of these are men and 28 women. Those with left-asymmetry are grouped as follows: of a total of 9 cases examined (4 men, 5 women), 3 are right-asymmetrical as regards the femur (1 man, 2 women).[2]

In his paper cited above, Blau records a large number of theories on the origin of laterality as well as an exhaustive linguistic "follow-up". As is generally known, right-handedness has come to be used in everyday speech as a symbol of "rectitude", of what is "right", "good", etc., whereas left-handedness and the sinister side in general bear a variety of negative meanings. According to the same author, this has become a psychological factor influencing the incidence of functional left-handedness (cf. the northern burials at Västerhus).

The groups of skeletal material that have previously been used for establishing evidence of laterality include some larger and others smaller than the Västerhus material. Some of these are published undivided into sexes. Among the comparatively few detailed summaries, that of Telkkä's is noteworthy, for it includes for each of the long shaft bones a table giving certain evidence that we must now examine.[3]

It is obvious that right-asymmetry in the upper limbs, whether this be established from skeletal remains or by arm measurements, has almost without exception a somewhat higher incidence among women than among men. Among the exceptions we may mention the upper arm bones of Frenchwomen measured in 1889 by Rollet, which showed a lower dextrality than those of men. The women in Warren's Egyptian material, too, showed an incidence of right-asymmetry in women 2 % lower than in men, this example also being taken from Telkkä's tables. Apart from these exceptions, it seems universally true that the upper arm bones and radii display a higher right-asymmetry in women than in men.

However, since the groups of material cited are in general rather small numerically — a weakness from which our own material also suffers, this greater dextrality among women can hardly be accepted as more than a tendency, though a very distinct one in some cases. For technical reasons such as we mentioned in introducing this chapter, it will probably remain very difficult to assess the reliability of the methods of calculation and to arrive at a standard norm for dividing up the different degrees of laterality in skeletal material.

From a purely hypothetical point of view we may justly put the question: is the greater degree

[1] Ingelmark, 1943, pp. 252, 258 ff.

[2] Of course, this is from a statistical point of view far too low a number of cases, to which comes a series of other complicating circumstances. The author could state that the result will be heavily influenced by the choice of measurements. Physiological lengths may thus give a clearer picture of the compensation and its proportional partition within the different bones concerned. This will be the object of further investigations.

[3] Cf. Telkkä's tables nos. 4—53, pp. 26—89.

of right-handedness among women due to more intensive physical activity, to harder labour, for women than men, or not? There can be no doubt that in many higher cultures even today the woman carries the heaviest burden of work, especially in relation to her physical constitution.

On the assumption that there was originally a slight dextrality in Man in the upper pair of extremities, and that subsequently cultural factors gradually tended to make this the 'leading' side both anatomically and functionally, we may perhaps be justified in interpreting this tendency, in part at least, as a result of hard physical exertion. Against such an hypothesis, however, stands the fact that both functional and anatomical left-handedness is demonstrably commoner among men than among women; in other words, precisely opposite circumstances obtain. The picture is complicated further by the genetic aspect which we have referred to above.

To sum up, the shaft bone asymmetries of the Västerhus population may be said to display a normal incidence by comparison with what we know from previous investigations, and thus call for no particular comment, nor do they fall into a special class in any significant respect.

These reflections of the author are intended only as a means of making his results available for future research.

CHAPTER VII

The Västerhus crania in the light of some chronological, environmental and hereditary factors

A. GENERAL: CRANIOMETRY AND ANTHROPOLOGICAL RESEARCH

In early, so-called classical, anthropology, Mankind was classified on the basis of qualitative and quantitative characters, which led to the establishment of a number of "races".

The use of measurements and their statistical treatment as a means of assessing type labels on human crania has been met with scepticism. Thus Boyd (1950), for example, citing a work by Howells (1944), states that "the trained eye can generally distinguish the skull of an Australian aboriginal from that of an Eskimo or of a European. But the skulls of Negroes and American Indians and Mongoloids in general are hard to distinguish from one another". This somewhat extreme approach that is again reflected in the title of Boyd's most recent work in this field (1958): "Has statistics retarded the progress of physical anthropology?". was severely criticized by Stewart (1951).

B. STUMBLING BLOCKS — CHANGES, ENVIRONMENTAL AND/OR GENETICAL

There can be no doubt that there are serious objections to the classification of cranial material solely by metrical means. The primary reason for this is that a large variety of changes the origin and nature of which are still imperfectly known, arise in various portions of the human skeleton as a result of changes in environment. The existence of such "modifications" has long been recognised; among earlier investigations into them is the well-known study by Shapiro (1939) concerning morphological changes among Japanese immigrants into the Hawaiian islands.

In "Natural Selection in Human Populations" by Roberts and Harrison (1959), Ashton[1] contributes a chapter entitled "Rate of change in populations of living primates" describing a colony of green apes (Cercopithecus aethiops sabeus) isolated on the West Indian island of St. Kitts, where it had reproduced through 75 to 100 generations in about 300 years. He showed that a whole series of metrical and other morphological changes had taken place within this population e.g. increase in certain skull and tooth dimensions, resulting in differences between it and the original population in its homeland. The St. Kitts example is quoted here to demonstrate the effect on morphological characters of environmental changes in a comparatively very short period of time — equivalent in length to that with which we are concerned at Västerhus. Nor

[1] Ashton, 1950, 1951a, 1951b, 1951c.

should we forget that a change in environment also involves genetic factors, e.g. "the action of selection upon systems of multiple genes"[1] and the simultaneous decline in random variability.

Examples of changes could be cited for other higher vertebrates, perhaps not directly comparable to that given above, but where chronological conditions produce associations leading in the same general direction. A multitude of studies on domesticated animals (the author is thinking primarily of the dog, horse and cattle) from prehistoric sites, has provided a large amount of material in the form of skeletal and skull measurements from before, during and after the period when they came into Man's possession or under his influence.

In the case of dogs, Dahr (1937) has demonstrated diagramatically their low variability in the Stone Age in N. Europe and the subsequent spectacular increase in variability — we know that an enormous proliferation in the breeds of dog appeared later. The present author arrived at similar conclusions (Gejvall 1940) from his investigations on a large number of canine skeletons, ranging chronologically from 3500 B.C. to c. 800 A.D., from the Cincinanti University excavations at Troy in Asia Minor.

For the horse, too, a large number of changes could be quoted, which apparently arose as a result of domestication some time between the Stone Age and Bronze Age; a summary of the relevant literature is given by Lundholm (1947).

As a consequence of the large sexual dimorphism in bones of wild bovids the races of domesticated cattle were previously thought — and this interpretation prevailed in the 30's, cf. such an eminent authority on domestic animals as Amschler (1939) — to have had a dual origin, one ancestral branch being short-horned (cf. e.g. Bos taurus brachyceros Arnei, Amschler) and the other long-horned (Bos taurus urus Rütimeyer). Adametz (1930) follows the same line, but Herre on the other hand (1948)[2] shows that bovids, when found in association with human cultures, produce both dwarf strains and large varieties; in other words, their variability is kept at a high level. The dual derivation from a short-horned moorland breed and the long-horned aurochs is nowadays considered improbable. We become faced instead with a complicated series of problems, the main feature of which is the fact that in all these animals the change of environment has resulted in change in variability. In this new environment other factors are at work, such as a changed and/or enforced diet and restricted freedom of movement, which produce different conditions of natural selection from those obtaining in their natural habitat.

May we not, therefore, venture to suggest that some changes of a similar nature might also have occured within a human population such as that at Västerhus? Would it not be reasonable for morphological changes to be detectable in the crania of the descendants of such individuals as had perhaps migrated from the fjords of the Tröndelag to the island of Frösö, lying some 360 m higher? We may also expect random genetic drift to play a role in such small and perhaps endogamous population as in Västerhus. The sequel will show that measurable changes did in fact take place in our material.

The main difficulty in the interpretation of such differences is of distinguishing between those that are genetic in origin and those that are true modifications. No satisfactory study of such a

[1] Roberts and Harrison, 1959, p. 71.

[2] The author has chosen this paper among the many important works by Herre, and refers, for full information on literature in this field to *Heberer* (1959:II).

wide range of problems concerned with human skeletal material can, in the author's opinion, be undertaken without the complete re-appraisal and re-interpretation of all the extant bone material from prehistoric times. So extensive a project could only succeed with the close collaboration of expert archaeologists, geographers and palaeoclimatologists, but some of the questions involved point the way to the lines along which modern anthropology will need to develop in the future, as outlined by Hunt Jr. (1959) in his important paper "Anthropometry, Genetics and Racial History". In this respect anthropology has much to learn from zoology.

Hunt's paper contains much that is significant. It has, indirectly, blunted the point of the attacks that have been mounted in recent years against "skeletal science" with its basis of measurements and minor morphological traits. As a result, the accumulation of a mass of metrical values for crania and skeletons, which often used to be described as "indiscriminate", turns out after all still to represent the indispensable foundation on which alone can be built the body of facts needed for the study of a population. No other method besides this purely descriptive one exists at present for the characterisation of cranial material, and the mass of data that has been produced at the cost of so much zeal and unstinted industry in this field of research by past generations will always be of lasting value. Unfortunately, however, although it has been hoped for some time recently that success would attend the attempts to establish blood groups for skeletal material, these may seem to have little chance of providing a reliable working method.[1]

C. ON PREHISTORIC AND MEDIEVAL CRANIAL TYPES IN NEIGHBOURING REGIONS

The most knowledgeable authority on Scandinavian cranial material was unquestionably the late K. E. Schreiner, and it is impossible adequately to express the debt owed to his knowledge by any work of the present kind. It is natural, therefore, that we should turn to him for information about the most prolific group of neighbouring material to Västerhus, namely the Norwegian medieval crania from the Tröndelag. Reference has already been made to these skulls in various connections (concerning certain metrical characters) in the chapter V. We must now turn to them again for comparative study of their morphology.

Schreiner, speaking of the medieval crania from Trondheim which he described in his monumental work "Crania Norvegica I" (1939), states *inter alia* that: "the overwhelming majority of these skulls were brought to light in the years 1899 and 1906 during the excavation of those parts of the walls inside which St. Olav's church and the Minorite monastery were situated in the Middle Ages" ... "St. Olav's church was built by King Magnus (died 1046) in honour of his father, King Olav the Saint. The monastery was destroyed by fire in 1591, and the church appears to have fallen into disrepair about 100 years earlier. The skeletons lay at three levels. Our material derives from the two uppermost levels and probably belongs to the period between 1300 and 1500".[2]

The material had, as Schreiner relates, been studied previously in 1901 and 1906 by Larsen[3], who had classified the skulls into typological groups comprising three cranial types, viz: a) a *North Germanic Dolichocranial type*, characterised by an L-B-I with a mean value of 73.9 for males

[1] Cf. e.g. Thieme and v. Otten, 1957, p. 387 ff.

[2] Schreiner, 1939, p. 4.

[3] Schreiner, 1939, p. 170.

and 74.8 for females. This class accounted for 50 individuals among Larsen's material and is exemplified by Tafel XXVIII in Schreiner. The type is represented in Swedish material from the Stone Age and had been illustrated as early as 1899 by G. Retzius in his well-known work "Crania Suecica Antiqua"[1] and elsewhere. The example reproduced by him comes from a passage-grave at Knaggegården (no. 12) in Västergötland (S.W. Sweden). The same type was later adopted by Scheidt (1924)[2] as characteristic of the "Nordic Long-skull". We thus already have two alternative names for this type of skull, the North Germanic Dolichocranial and the Nordic Long-skull. It occurs abundantly in the more easterly parts of the Västerhus cemetery, where we may cite as an example grave no. 115a, a male buried due S of the choir, while a female cranium of the same type occurs, for example, in no. 89b, NE of the apse. In Pl. 8:1 we show Retzius's illustration, Schreiner's Tafel XXVIII, Cat. No. 475, and Västerhus no. 115a reproduced in sagittal contours and all reduced to the correct relative dimensions.

b) A *mesocranial intermediary type*, accounting for 44 crania and characterised by an L-B-I with a mean value of 76.4 for the males and 79.3 for the females, with "rhomboidal shape in the norma verticalis, prominent tubera parietalia and fairly long occiput". This type is exemplified by Schreiner in his Tafel XXIX and is represented at Västerhus, e.g. by the male no. 162 who lies peripherally to S of the nave and whose contour line is superimposed on that of Schreiner's Tafel XXIX, Cat. No. 1057, in our Pl. 8:2.

c) A *brachycranial type*, comprising 13 crania, with an average L-B-I of roughly 80. This is characterised by "small height, medium breadth, the forehead domed in the sagittal plane, rather flat parietal region, strongly developed tubera parietalia, bulging posterior parietal region, fairly long occiput, fairly broad and comparatively low upper face with low-set processus alveolares maxillae, low orbital openings, short but usually not broad nose and a palate generally of considerable breadth".[3] Schreiner gives his illustration of this type in his Tafel XLI: figs. 1 and 2. In our Pl. 8:3 the sagittal contour of this type is superimposed on an example of a similar skull found in grave no. 200a at Västerhus, which contained a male and was situated in the W periphery of the cemetery due S of the W part of the nave.

As we have already shown in chapter V on the Comparative Material, the medieval crania from Trondheim are characterised above all by the fact that they are absolutely smaller than those from Västerhus. This applies both to the skull capacities and to the measurements used in our comparisons. The Trondheim crania are moreover of more slender build throughout.

Another work by Schreiner, "Crania Norvegica II" (1946), is also of great assistance to us in regard to this problem. He illustrates there, in Pl. VI and VII, two long skulls of Stone Age date from Stod in the northern Tröndelag; of slender build, they are essentially comparable to a series of crania from E of the apse at Västerhus, e.g. the females nos. 90, 93, 94a, 101 and 106 and also, though not quite to the same extent, to the series furthest to the SW, nos. 224—227. Schreiner's profile view of Stone Age cranium 6 from Stod[4] is superimposed in Pl. 8:4 on the Västerhus female no. 101, selected as the most characteristic of our counterparts. A metrical comparison between the most important measurements of Schreiner's crania 6 and 7 and Västerhus 101 is shown in table 9.

[1] Retzius, 1899, Taf. XVII and p. 88.
[2] Scheidt, 1924, Taf. I, figs 3 and 4.
[3] Schreiner, 1939, p. 170.
[4] Schreiner, 1946, Plate VI.

Schreiner's comments on this cranium type are of such great interest that we must cite them in note form:[1]

"Our earlier investigations of Norwegian skull material from the Middle Age led to the result that the Oslo material as a whole belonged to the Nordic type. The material from Trondheim also undoubtedly included numerous representatives of this same skull form. However, the explanation of the smaller size and more delicate structure which characterised this material as a whole was an open question. It is possible that the above-described skulls from Trøndelag's Stone Age may provide the explanation.

As is known, the Mediterranean skull form exhibits such great similarity to the Nordic that in individual cases it can hardly be distinguished from the latter except by its smaller absolute measurements and its more delicate structure, since both the calvarian and facial indices both fall within the same range of variation. Except for their higher orbital index and greater parietal breadth in relation to the length and height, the Medieval skulls from Trondheim differ in their indices only slightly from the Oslo skulls. However they differ from them markedly in their smaller absolute measurements and in this they agree with the Stone Age skulls from Trøndelag as mentioned above. This peculiarity of the Trondheim skulls may be explained by the assumption that there is stronger Mediterranean admixture than in any hitherto examined Norwegian material. The above described skulls from Trøndelag's Stone Age indicate that this admixture dates back very far. The isolated position of the Trondheim material in relation to southern and western groups, compared with the occurrence of similar forms in Sweden and the previously mentioned (pp. 29—30) archaeological demonstration that the Swedish Stone Age culture spread to Norway via two different routes, partly up over Bohuslän to the South-Eastern parts and partly over Middle Sweden to the Trondheimsfjord. It can be regarded as highly probable that this skull type originated in the Mediterranean area. It is possible that its appearance on the Scandinavian peninsula has some connection with the immigration to Sweden of Megalithic peoples from the west, proof of which Montelius and Forssander claim to find in the structure of the cist-graves of Forssander's Skogsbo type."

Schreiner also refers to Fürst, who has shown that crania of this type are found in the megalithic graves of south-west Sweden, and that they are closely similar to the British Long Barrow crania.[2, 3] Schreiner further suggests another alternative migration route, across N. Sweden, along which the Mediterranean-type crania might have passed in their spread towards the Tröndelag.

Archaeological research during the last decade in Norway does not perhaps entirely corroborate this theory; although it is not denied that certain types of boat-axe might possibly have been introduced into the Tröndelag from the E, specialist opinion apparently tends more and more towards a southerly point of entry for the Battle-axe culture.

Marstrander (1956) states in this connection that "everything suggests that this is a question of foreign culture elements associated with an immigration of new communities. The Tröndelag boat-axes are manufactured as a rule from native types of rock and, in several instances, are clearly unfinished. This implies that we are not concerned with imports". Möllenhus (1958) also expressed himself in similar, though more cautious, terms.

Schreiner's material thus presents us with crania from both the Stone Age and the Medieval Period which differ from those of the surrounding regions by reason of their specialised and delicate form, and we have found the same types to occur also at Västerhus. Nevertheless, this

[1] Ibid. p. 78.
[2] Ibid. p. 61, cf. also pp. 29—30.
[3] For the sake of completeness, we should noted here that in "Stenålderskvinnan från Luttra", published by Hjortsjö, Sahlström and the author (1952a), this skull displays wide morphological affinities with the crania labelled Mediterranean by Schreiner from the Stone Age in the Tröndelag and the Middle Ages in Trondheim.

does not enable us to draw any firm conclusions about the first appearance of such types on Frösö, although we may venture to suggest that their occurrence there in the Early Middle Ages and the existence of so strong an admixture of the Mediterranean type in the 14th—16th century cranial material at Trondheim are in some way connected with some of the statistically confirmed metrical likenesses in respect of absolute measurements between the Trondheim material and that from Västerhus, and that this may conceal an earlier exchange of inhabitants between the two areas. Current archaeological opinion, as stated above, perhaps favours an introduction of the Mediterranean-type crania to Frösö from the W rather than the S.

As mentioned in our introductory chapter on the Material, there is also a small group of comparative cranial material, complete with the other skeletal parts, from a Viking Age gravefield at Röstahammaren in Ås parish, less than one Swedish mile N of Frösö. According to Kjellmark (1905), who excavated this gravefield, it can be dated to the period just preceding or round about the middle of the 11th century. The skeletal material was published by Fürst (1905), and his paper shows that only three of the 10 individuals in this group have crania sufficiently well preserved to be suitable as comparative material in the present context. The sagittal profile of the male cranium M 1 from Ås displays close conformity to that derived by Schreiner from 8 male Viking Age skulls from Caithness and from Norwegian Iron Age specimens.[1] This contour is shown together with that of the Ås cranium M 1 in our Pl. 8:A. The other Ås skull, "M Gr", is claimed by Fürst to be of a quite different type, higher, with an L-B-I of 78.6, a narrower forehead, broad face, high nose and heavy superciliary arches.[2] "M Gr" exhibits considerable metrical likenesses to the Västerhus male no. 183, buried due S of the S door of the church. This is shown by the data collated in table 10 and by Pl. 8:B, where the cranial contours are superimposed. Finally, the cranium "Kr" from Ås is essentially comparable in shape to a whole series of female crania from Västerhus. One difference, however, is that this type, as represented at the latter site, is usually more short-skulled. In Pl. 8:C "Kr" is compared with the female no. 37 from N of the nave.

The comparisons summarised above have been made only in order to direct the reader's attention to the fact that the sites in the Tröndelag (Stod and Trondheim) and at Ås and Västerhus in Jämtland — the first from the Stone Age and Medieval period respectively, the second from the Iron Age, and the third from the Middle Ages and, indeed, partially contemporary with Trondheim — all contain crania of closely similar types.

It may be added, moreover, that Schreiner demonstrated the appearance among the skull types from the Bronze Age in the Trondheim area, as also in Denmark and Sweden during the same period, of new features involving greater skull height, higher L-B-I and a whole variety of other characters, that together have been put forward as proof of the immigration of new racial elements.[3]

D. ON VARIABILITY

The general survey given above shows the need for a close examination of the comparative variability of the various cranial measurements between the Västerhus skulls and the medieval

[1] Schreiner, 1946, p. 143.
[2] Fürst, 1905, p. 381.
[3] Schreiner, 1946, pp. 89—93.

crania from Trondheim that Schreiner has described in such great detail. Tab. 11, has been drawn up for just this purpose. It shows, for every cranial measurement and index available for both groups of material, the differences between their mean values and the mean errors of these, between their standard deviations and between their coefficients of variation. The nearest significance levels have also been calculated for the differences between their mean values, and are included in the Table, all in conformity with current practice.

From the results thus indicated we may draw the following conclusions:

As was already clear from Schreiner's tables of the material of medieval date from Trondheim, this group is characterised by its smaller absolute dimensions by comparison with other regional groups from Norway. Our tab. 11 shows that the same is to a great extent true by comparison with the Västerhus crania, which show statistically confirmed differences not only as regards skull capacity but also in over half of all the absolute measurements available. All three of the measurements taken for the *neurocranium* on both sexes are higher on average at Västerhus; the significance levels for 14 of the male and 15 of the female characters are ≤ 0.001. As regards the 14 measurements for the *facial skeleton*, Västerhus similarly displays preponderantly higher mean values; the exceptions to this are the basion-prosthion length, the upper facial height in males, and the orbital height in both males and females — for all of which the values are lower on average at Västerhus than at Trondheim.

The indices, however, present a different picture, exhibiting closely comparable mean values in both groups of material. Among the various indices for the brain-case and the facial skeleton, statistically certain differences are established for only three of the male and three of the female mean values out of a total of 16 indices available for each sex; these are the sagittal-frontal index, the transverse fronto-parietal index and the orbital index for the males, and the L-B-I, B-OBH-I and orbital index for the females. The orbital indices are thus on average lower for both sexes at Västerhus than at Trondheim and the male sagittal-frontal index is also lower, whereas the transverse fronto-parietal index among the Västerhus males is considerably higher than its equivalent for the Trondheim males. The average L-B-I for the Västerhus females is significantly lower than that for the Trondheim females, while the B-OBH-I is the precise opposite. The majority of these are differences to which Schreiner was able to find numerous parallels among his exhaustive analyses of the Norwegian cranial material.

When he came to look for the reasons why the absolute measurements for his Trondheim material were so low in general, Schreiner first tried to explain them by a postulated lower average stature at Trondheim in the Middle Ages, but after close checking he found that he could not verify this (cf. our chap. IV on Stature). The explanation of the low absolute cranial measurements first came to hand in his Crania Norvegica II where, as a result of comparisons with Scandinavian skull material from the Neolithic period, he was able to demonstrate the occurrence of small, delicate crania of Mediterranean type at Stod in the Tröndelag, and to prove that these were identical to the small medieval Trondheim crania, as has already been described earlier in this chapter.

The reasons for the low average sagittal-frontal index and the high average transverse fronto-parietal index among the male crania from Västerhus are quite obvious: they are associated with the unusually high frequency of persistent metopic suture, to be discussed in more detail below.

The average differences in respect of the *standard deviations* and the *coefficients of variation* between the Västerhus crania and their counterparts at Trondheim are also shown by table 11 to have fairly low values in general. The variability, however, is seen to be rather greater among the female material at Västerhus than among the male. If we compare this variability with that of known prehistoric material, e.g. from Västerbjers on Gotland or the Egyptian groups of a regional nature, it can be seen that the variability at Västerhus is rather greater than in the homogeneous, localised types at Västerbjers but only fractionally above that of the Egyptian material.[1]

We may also, for the sake of completeness, draw a comparison between our crania and another Norwegian regional group, namely Schreiner's skulls from Oslo. Tab. 12 shows the comparison between the coefficients of variation for the various measurements and indices of these crania and the equivalent values for Västerhus. It is clear from this comparative table that the variability of the Västerhus material can be described as being of the same order as that of the regional groups in Norway (from Trondheim and Oslo) but that they differ in certain particular respects.

There is a somewhat greater variability in the Västerhus material as regards, the nasion-bregma length in the males and basi-bregmatic height in the females, the bregma-lambda length in both sexes and the lambda-opisthion length and arc in the females, the above-mentioned measurements being those of the brain-case. As far as the facial measurements are concerned, the female orbital and biorbital breadths, palatal length and overall facial height at Västerhus show a slightly higher variability than their counterparts at Oslo and Trondheim; in the case of the two orbital breadths, this is probably connected with the high incidence of metopic sutures. Both sexes at Västerhus also show a relatively high variability in respect of the upper facial height (nasion-prosthion length), and the same is true also of the ramus height in the lower jaw and, especially among the females, the nasal breadth and chin height.

Apart from divergences in variability as regards some few measurements, which the author has good reason to believe to be partly due to technical problems of mensuration, and such orbital breadths which are to be explained by the high frequency of metopic sutures, it is thus primarily in the height- and length-measurements in the facial cranium and brain-case that we can see the greater variability obtaining at Västerhus than in the two comparative groups of Norwegian material.

If we now examine the *coefficients of variation for cranial indices*, (table 12), we find the logical sequel, viz. that the comparatively greater variability of our material is displayed by those indices (sagittal-occipital index, transverse fronto-parietal index and upper facial index) that involve as components such measurements as themselves have been shown above to have a greater variability.

The problems in detail of correlations between different measurements taken on the skulls and extremity bones of Västerhus will not be discussed here. They would deserve a volume of their own. The following however is of certain importance for the discussion in chapters IV and X. Research in recent years into the constitution of the human body has given us a further insight into the correlations between various measurements on living material and on the human skeleton. A series of papers on this subject has been published by the Department of Human Anatomy

[1] Dahr, 1943a, tab. 7, p. 138.

in the University of Lund. An important thesis, "Variations in Human Body-Build", by Lindegård (1953) has been followed by other investigations by the same author (1957) and his colleague, Björk (1955) and Sarnäs (1957). What is of most immediate interest to us in these studies is the fact that a positive correlation can be established between facial height and limb-bone lengths. We are thus compelled to put the question: Can any such correlation be demonstrated between the upper facial height and our estimates of stature, following Trotter and Gleser (cf. chap. IV)? A glance at Pl. 9 gives the immediate answer: there can be no doubt whatsoever that there is indeed a strong positive correlation between these two measurements.

E. HOW DID THE CHURCHYARD GROW?

A stratigraphical excurse

The conglomeration of graves that surrounds the chapel ruins on all sides except the W makes it impossible on stratigraphical grounds to establish precisely the order in which the individual burials were deposited. But the groupings of interments within certain parts of the churchyard and the segregation of the sexes clearly suggest that some rule had been followed in these burials and had been followed consistently. The author has therefore deemed it worthwhile spending time on an attempt to find the key to this order of burial. Although it cannot be claimed that the attempt has met with complete success, we may follow the investigations part of the way and see where they lead from an anthropological point of view. Let us begin by examining certain changes in the crania of some of the individuals who can be proved, or shown with something approximating to proof, to have been interred at different periods. We may try at the same time to get some idea also of the differences, if any, in measurements and qualitative characters between the crania of individuals buried deeply and those buried in shallow graves. For this purpose the author has extracted the estimated depths of the graves from Lagerholm's reports; unfortunately, such information is not available for all of the graves, but it does exist for the majority of the individuals whose graves are plotted on the plan. On the basis of these records a 'depth plan' has been drawn up (Pl. 10) on which some of the deepest and shallowest interments respectively, and those that cover one another horizontally, are specially indicated with dotted lines. All depths are relative to a fixed level. Above the line dividing the plan into two halves lie the female burials located to N of the church, and the males inside the nave, below the line are the male graves to the S. The letter "M" indicates the occurrence of a persisting metopic suture in the individual's forehead.

We should now compare on this plan, among other things, the individual L-B-I's which are marked on it. This correlating the fundamental cranial indices with the estimated grave depths, immediately yields an important piece of information.

There is an obvious and striking relationship between the grave depth and L-B-I, which takes the form of the occurrence, in each of the major groups of graves, of one or two deeply interred individuals who are long-skulled and, in one or two instances, exceptionally so (the females 23, 43, 51, 89b, 95, etc.) (males 89c, 135, 140, 157a, 164, 202). In the shallow graves, on the other hand, i.e. those which must presumably have been dug at a later date, lie individuals who, with

few exceptions, have shorter skulls, several of which exhibit a metopic suture — a character that has been shown by Torgersen (1951) in particular to be hereditary and, moreover, a Mendelian dominant with varying penetrance depending, among other things, on the length of time it has had to "work".

This first attempt to divide the graves according to depth has thus resulted in our lighting on a change in cranial form that has a chronological basis — the term "micro-evolution" is perhaps not the correct one in this context. A change has clearly taken place in the L-B-I of the cranium comparable to the brachycephalisation that is known from literary evidence to have occurred in the Early Middle Ages, and has often been discussed (Hug, 1938, will serve as a good source for the literary evidence and Torgersen (1951) for the development of the metopic suture during the period). We shall return later to this change in developmental direction towards shorter skulls.

One feature that was observable on both the N and S sides of the church might seem to militate against such a theory of brachycephalisation, but only at first sight. It concerns a series of crania deposited at medium depth and showing a metopic suture (e.g. nos. 17, 122, 127, 131, 146 and others). These individuals were later interments, presumably in a particular part of the church-yard that, for some reason or other, had not previously been used for burials. There is thus an apparent reversal of the process of brachycephalisation in the periphery, where 'de-brachy-cephalisation' seems to be the trend. This might also make it appear impossible to detect any order in the deposition of burials.

If we are to hope to elucidate the general sequence of use of the burial area, we must attempt to gain some impression of what took place in the earliest stages. Round a small church, situated inside the final phase of the chapel foundation as shown on the plan, the first burials were placed next to the choir with isolated graves lying in specially allocated areas. These might either have been purchased by a particular kinship group or family, or alternatively have been allocated by farms or 'quarters' (fjärdingar) (cf. below, chap. X). As further interments took place, it must have happened more and more frequently that the grave-diggers came into contact with earlier burials. The natural, not to say probable, consequence would be that in the early phases of a churchyard experience would soon have taught that graves should be dug deeper, specifically to avoid the danger of subsequent burials damaging the earlier ones. Herein may lie reasonably strong confirmation of our hypothesis that the long-skulled individuals in the deep-dug graves really do represent the earliest interments.

F. THE GRAPHS AND PARALLELS BETWEEN THEM

We may now bring into use the diagrams, Pl. 11, 12 A, which show some of the cranial measurements and indices, L-B-I, L-H-I and B-H-I, to build up further our chain of evidence. By reading the diagram for L-B-I (cf. below) from E to W we will see a distinct series of separate phases during which the fluctuations even themselves out; this is most clearly demonstrated by taking examples from the female L-B-I graph in which the minimum values show a gradual increase as one moves from E to W.

We should first recall, as described in the chapter II on Method, that every interment had to be re-numbered to provide a roughly consistent continuity in a clockwise sequence starting from

inside the tower and nave, then running from the NW corner of the churchyard eastwards, round the choir and apse, and back again to the west. We may also profitably consider precisely what these diagrams can be expected to demonstrate. They are all drawn up in such a way as to illustrate, in the same sequence as the new numbering of the burials, the nine cranial measurements and indices that have earlier been employed (chap. V) for comparisons with other, previously studied, groups of cranial material. The order of sequence is therefore as follows: starting at the SE of the apse with the female buried furthest out to the SE, no. 106, each graph shows, measurement for measurement, all the individuals in one and the same order, counting backwards for the females (106, 101, 98a, ..., 17, 15, 11, 8) and forwards, starting in the NE, for the males (89a, 89c, 98b, 99a, ..., 211, 213, 223). It is thus obvious that this series of diagrams shows not merely the correlation between the various measurements and indices in one and the same cranium, but at the same time any correlations that may exist between males and females lying approximately opposite one another on the S and N sides of the ruin respectively.

It should also be stressed that a large selection of other metrical characters could have been used in exactly the same way, and that each single one of them has in fact exhibited a series of parallels between the two sexes when their measurements have been collated in the same graph form as the present examples.

1) Let us now examine these diagrams, starting with the *maximum skull breadth* (Martin no. 8). These values, for 66 females to N and 60 males to S of the church, are given in two superimposed graphs in Pl. 11. The characteristics shown by this measurement are as follows for the females, reading from E to W: low values and low amplitudes at the beginning, thereafter an increase in both, followed by a renewed decline which is represented primarily by individuals 73 to 48 inclusive. The amplitude then increases again strongly, with peaks at individuals nos. 46—45 and 30—24; after nos. 45 and 24 respectively there are two phases with smaller amplitudes associated at first with low values also. Another trend exhibited by the graphs is for the low and high values to correspond in general to the estimated depths of the graves. The graph for males shows a distinct decrease in the amplitudes from E to W and a simultaneous, though slight, average increase in the skull breadth values. Comparison between the male and female graphs shows a number of distinct parallels over long stretches.

2) The *bizygomatic breadth* (Martin no. 45), for 47 females and 47 males, is presented for both sexes in similar graph form to that of the last measurement, in diagram 11. Starting from the extreme E, the female graph shows a couple of low values, then a rise followed by oscillating values between a maximum of 131 and a minimum of 118 mm as far as grave 73, and thereafter a further increase in amplitude up to individual no. 68 inclusive. From individual 55a onwards the fluctuation continues to increase, though with an interval covering a few individuals between each successive increase and the next, associated with a rise in the mean value for the measurement towards the W, by comparison with the E half of the diagram. The parallels between the courses of the male and female graphs are here less striking, though still discernible.

3) The *maximum skull length* (Martin no. 1), for 61 females and 57 males (cf. diagram 3), is characterised by a gentle overall decline in values from E to W and the wide amplitudes illustrated by both sexes. There are several parallels between the two graphs.

4) The *upper facial height* (nasion-prosthion height, Martin no. 48), for 46 females and 53 males,

exhibits certain parallels in its course from E to W between the two sexes. The amplitudes, however, cannot be correlated to display a single, characteristic trend.

5) The *basi-bregmatic height* (Martin no. 17), for 60 females and 56 males, also displays many parallels between the sexes in its course from E to W. The female graph is the less consistent, with greater amplitudes furthest towards the E, followed immediately by a stabilisation round individuals 94a to 90 inclusive and 89b to 82 inclusive. The fluctuation then rises again in two successive waves towards the W, attaining a maximum in the extreme W. The male graph shows narrow fluctuations in the extreme E, followed immediately by a sudden drop (individual 104, platybasic?); the amplitude subsequently remains slight despite a simultaneous and gradual rise in absolute values to individual 136a. Thereafter its course is irregular, though the amplitude does show a relative increase with maximum values at individuals 157b and 166a and again at 167b and 178; after this the fluctuation again narrows. There are numerous parallels between the female and male graphs.

6) The *nasal breadth* (Martin no. 54), for 48 females and 50 males, produces a female graph showing an uneven course in which no clear trends are discernible. In the male diagram the graph follows a rather irregular course in the E with relatively low amplitudes; from individual 134 onwards we get another phase showing slight regularity, and the same occurs again from individual 165 to no. 183, after which the rest of the graph is irregular. The parallels between the graphs for the two sexes are not very pronounced.

7) The *minimum forehead breadth* (Martin no. 9), for 60 females and 56 males, is greatly distorted by the high incidence of persistent metopic suture, and therefore exhibits special features that can most clearly be seen in the graphs themselves.

8) The *nasion-basion length* (Martin no. 5), for 56 females and 55 males, exhibits a characteristic course, especially if both sexes are viewed together. The course falls into three stages from E to W, each starting with high amplitudes subsequently decreasing towards the W. The middle portion in each stage has wide fluctuations and embraces more individuals, while their end portions most usually consist of a few individuals. Many similarities are apparent between the male and female graphs in the various sections of their courses.

9) The *orbital height* (Martin no. 52), for 48 females and 52 males, presents a graph for the females that is characterised at first by a couple of low values followed by a marked rise with fluctuations of up to 5 mm. Between individuals 73 and 63 the amplitude narrows to only 2 mm and between nos. 63 and 48 does not exceed 3 mm; the absolute values show a simultaneous decline. From 48 to 38 a greater fluctuation occurs, with a maximum of 7 mm, and between individuals 24 and 8 it rises to as much as 8 mm. The male graph begins with relatively low absolute values and moderate amplitudes, but these widen markedly at individual 105 (due S of the apse); from no. 111 westwards the values decline and the graph subsequently follows a more even course with minimum value at the male no. 135; a second nadir is reached at individual no. 159, after which the fluctuation increases gradually and the mean value again rises towards the W. The graphs for N and S of the church display many parallels.

10) The *length-breadth index*, (Pl. 12A) for 61 females and 55 males, shows a number of striking parallels between the graphs for the two sexes. In brief, the fluctuations N and S of the church decline from the E, while the absolute values for this index increase gradually towards the W.

11) The *length-height index*, (Pl. 12 A) for 59 females and 56 males, begins in the E with high values for the females, subsequently showing a strong decline in the section from individual 97 onwards and later becoming stabilised. The male graph, which in its E half conforms in general to the female, exhibits greater fluctuations from grave 156 to 190 but these subsequently decline somewhat. There are many parallels between the male and female graphs.

12) The *breadth-height index*, (Pl. 12 A) for 59 females and 56 males, displays roughly parallel graphs over much of their length. For further details the reader is referred to the diagram.

13) Finally, in diagram 13 (Pl. 12 A) we have presented the measurements of the upper facial height (Martin no. 48) all in disorder, for 20 female individuals N and 20 males S of the church respectively. These graphs exhibit none of the parallels such as could be detected in the above-mentioned graphs for measurements and indices.

The experiments described above could be multiplied many times over, but they must suffice to exemplify the parallel courses displayed by the female and male crania N and S of the chapel ruin respectively.

What, then, is the reason for the occurrence of parallels of the above-mentioned kind between the measurements of the males and females? The author suggests that the following may offer at least a partial explanation. Howells (1949), Clark (1956) and others have demonstrated the genetic origin of anthropological characters found in individuals that have grown up in a similar environment and are closely related (brothers in one instance and twins in the other), and have shown a characteristic correlation to exist between certain of their measurements. One of the results of these investigations has been the demonstration that the length and height measurements of the cranium provide a better correlation than do the breadth values. Our material comprises roughly equal numbers of adults of each sex as represented in the diagrams. As we shall show later, there is a fairly high degree of morphological conformity between individuals both within the same group of graves and in grave groups approximately opposed to one another on opposite sides of the church. These conformities concern both proportions, shape and discrete traits (cf. below), and it is therefore in no way surprising that certain parallels are exhibited by the female and male graphs in which these characters are expressed. What is somewhat unexpected, however, is that by pure accident the number of adult individuals within each group of male graves to S and female to N of the church happens to be roughly the same. One plausible explanation of this, though probably only part of the truth of the matter, is the fact that any given area would have room for only a certain number of graves, or would only have been allowed to contain so many.

G. A HOMOGENEOUS OR HETEROGENEOUS POPULATION?

We have attempted in passing to show that the cranial types discovered in the Västerhus gravefield appear, as one would expect, to represent forms comparable to those in the Tröndelag; one of them was known to exist already in Neolithic times and, at least at Trondheim itself, in the Medieval period, and the others are the same types as occurred during the Iron Age in Jämtland in the vicinity of our own site.

There is much talk nowadays of the ancient trade route running up through Sweden and across the Lake Storsjö region to Norway and the Atlantic coast, mentioned in the earliest saga-writings on Jämtland and in historical sources for the province, and insofar as their tracks can be followed, of the thousands of minor routes forming real or fictitious links between the fjord regions and Jämtland.

As the dark period of the sagas give place to an ever increasing wealth of established historical fact in the early phases of the Middle Ages, we find greater and greater confirmation that there must have existed such extensive commercial links as to make it either necessary or expedient to regulate the coexistence of the various peoples by legal ordinances. As an example of this we may cite a single quotation from the pronouncements contained in the Frostathings-Law on "farbann" — the ban imposed on communications between different countries, from which Frösö and other trading centres were exempt. Norwegians were permitted to travel thither "with the king's permission, and if there come thither men who are at enmity with the king, they shall pursue their trade as though they were men of peace, with impunity".[1] We may also point out the central situation of Frösö within the province and the fact that not far from Västerhus stood the medieval royal demesne of Forberg where, from the week after the Feast of St. Gregory until the 12th March, an "All-thing" was held and a "kaupstefna" — a market — at the same time.[2] This shows that the skeletal material that we are investigating derives from an area where, theoretically at least, there is a strong probability of interments of the most diverse kinds, of the folk from the neighbourhood, from other parishes who chanced to die while journeying, and of traders and priests form distant places. Then as now, too, the men would have travelled far to find their partner in marriage.

Much of all this, however, we could probably never learn by scientific research. The problem whether the church is a "tings-", "högendis-" or "gårds-kyrka", i.e. a sanctuary intended primarily to serve the needs of the "jamtamot" — the All-thing — or one erected by a nobleman (on the royal demesne?) or a chapel for one or several farms, respectively, can probably never be finally solved, but could perhaps form the subject of a future study based on the skeletal material.

It has been pointed out above that the variability of the cranial material is comparatively low, or at least that it is not high in relation to that of such neighbouring Norwegian material as we have employed for comparative purposes. On the other hand, a large proportion of the absolute measurements exceed the equivalent values for the medieval crania from Trondheim, and show statistically significant differences from them. The standard deviations and the coefficients of variation for the great majority of these measurements also exhibit a marked distinction between our material and the almost contemporary Norwegian groups. We have, moreover, seen that a few of the cranial indices at Västerhus differ significantly from those of the Trondheim crania, although the majority of the indices, as regards both mean value and variability, can be taken as practically identical in both cases.

The problem that faces us, therefore, is this: what do these facts imply in respect of the homogeneity or heterogeneity of the Västerhus population?

Before considering our answer to this, we must call to mind some of the conclusions already drawn from our investigations:

[1] Bull, 1927, p. 32. [2] Ibid. p. 36.

1. The estimates of stature demonstrated that a number of individuals with a stature considerably above average were buried close to the church, and that examples of tall stature were established for those lying round the choir and apse, inside the nave and tower, and along the S wall of the nave. The shorter individuals were usually located more peripherally.

2. The graves follow evenly the curve of the choir and apse, and are concentrated into groupings of more or less regular alignments, diminishing markedly in density from E to W.

3. An almost strict segregation of the sexes could be observed in the burials, with the females lying to N and the males to S of the church.

It must be admitted that these conclusions are sufficient to prove that we are concerned at Västerhus with several successive generations of a single population. The divergences from the prescribed rule are too few for us to be tempted, even for a minute, to think in terms of a constantly changing population. In addition, we have the evidence of known historical facts and documentary sources, which will be discussed later (chap. X).

On the other hand, the author does not exclude entirely the possibility that our burials may contain some of folk from distant lands. For example, the male, no. 3, who was laid to rest inside the nave and probably in the final structural period of the church, may perhaps have been a priest; he displays divergent morphological features from all the rest of the cranial material. The same is true also of the females, 31 and 41, both situated peripherally to the N of the nave. As far as we can tell at present, however, both the metrical characters of the skeletal material and other demographic features as well as the general make-up of the churchyard suggest a population of a homogeneous type.

H. ON "DISCRETE TRAITS"

We have hitherto chosen to base our investigation on the quantitative characteristics of our material and the evidence derived therefrom. Let us now briefly examine some qualitative ones.

Modern anthropologists are becoming more and more eager to make use of what are undoubtedly rich sources of evidence concerning the genotypes of individuals and populations that lie concealed in a mass of still only partially understood and inadequately studied morphological characters that we now know or have good reason to believe to be controlled by a comparatively small number of genes. As regards the hereditary transmission of the shape of the brain-case, for example, or of the facial skeleton, it is now evident that these depend on a number of genes.[1] We can say without exaggeration that virtually all the "craniometrica" that have been employed by anthropologists to characterise a population present us with the same problem: their inheritance is conditioned by geno-complexes and in many cases they are also influenced by environment.

The circumstances surrounding "discrete traits" are still far from clearly understood, but the most recent research has shown more and more of these minor anthropological features to possess attributes that are predominantly genetically controlled by a smaller number of genes than the quantitative characters. As a typical example of the development in this research field we may cite Oschinsky and Smithurst (1960) who, in their study of the Eskimo Dentition in

[1] Boyd, 1950, p. 305, for example; cf. also Alette Schreiner (1923) p. 395 ff.

the Eastern Canadian Arctic conclude that there is clear evidence "that polygenetic morphological features are more stable in genetically related populations than monogenetic serological features which, as has already been mentioned, are more subject to the vagaries of genetic drift, mutation, and selection". (O. & S., 1960, p. 110). A combination of such discrete traits was employed by Laughlin & Jørgensen (1956) to demonstrate in an impressive manner the isolate variation of a collection of crania from various parts of Greenland, and thus to express the biological distance (illustrated by a coefficient of divergence for both these discrete traits and the craniometric data from four different districts of Greenland), thus providing valuable evidence concerning fundamental migration problems. Brothwell has worked along the same lines but using somewhat different qualitative, non-metrical characters of the skull to differentiate populations among large groups of material of known origin (Brothwell, 1959). He employs nine metrical and ten non-metrical characters and establishes shape and size differences from the Eskimo for 13 different selected populations.

Within the Västerhus material the author can hardly hope to be able either to classify the individuals into different groups or to follow the progression of any single feature from individual to individual in the correct time sequence, since the stratigraphy of the site presents altogether too complicated and obscure a picture. Nevertheless, an attempt has been made to record and calculate the frequency of such discrete traits as have previously been employed as well as a few other new ones by way of experiment, while a large selection of yet others have also been noted in the hope that it may, at some time in the future, prove possible to take up these problems again for renewed experimentation, preferably with the aid of electronic equipment for the computation of the data derived from the measurements taken of the skeletal material.

In order also to avoid taking up an excessive amount of illustration- and word-space with the morphological features of the various individual crania and cranial groups — which, for the whole cemetery, would in any case have required an enormous amount of room — the author has chosen to demonstrate certain characteristics of the population with the aid of discrete traits.

Table 13 shows the occurrence of the different characters investigated; these have been stencilled individually through a punched plan of the graves onto transparent paper with colour dots. When all the different grave plans, each bearing dots where the particular discrete trait occurred, are subsequently superimposed on one another and the groupings of each particular discrete trait ringed round with a line, it is possible, by overdrawing on a single composite sheet all the observations of all traits, to establish a division into groupings of all the individuals in the cemetery, which displays a striking correspondence to the overall morphological picture.

As with the morphological parallels, so too here it would take far too long to give a detailed description of the pattern shown by every single discrete trait that has been employed. There follows below a list of a few of the ones that were studied in detail; the list could be multiplied dozens of times, but our intention here is not to present an exhaustive series, but rather, by means of a few selected examples, to indicate a practicable method which can be used to bring a certain degree of order into a collection of crania of this sort.

The "discrete traits" that have experimentally been recorded for our material are as follows:

1. A *body bridge* more or less completely *closing the sulcus arteriae vertebralis of the first cervical vertebra*, the atlas; this formation, which has been studied most thoroughly by Selby and others

(1955), is interpreted by this research team as "familial, genetic and, though influenced by sex, probably inherited as a Mendelian dominant"[1]. In recording this character, the author has awarded 0, 1, 2, 3 or 4 points according to its degree of development. In many cases it proved to be either unilateral or developed to such a different degree on the two sides that a system of notation 0+1, 0+4, etc. was introduced. In tab. 13, where ten discrete traits have been collated, only those bony bridges are included where the development on one side or other is at least 3, i.e. values from 0+3 to 4 inclusive.

2. *Spina bifida occulta.* This has previously been investigated by Curtius (1933), Schröder (1939) besides others. It should be pointed out here that excavated skeletal material is seldom suitable for the study of this character. This is the natural outcome of the fact that the spinal column is composed more extensively of spongy structure than the more compact parts of the skeleton, and therefore suffers more severely from the mechanical and chemical effects of prolonged burial in the soil.

3. *Perforatio olecrani,* which plays a very important role as a characteristic in animal osteology, is represented in human skeletal material on such a scale and in so developed a form as to have made the investigation of its hereditary transmission a matter of urgent necessity. According to Martin (1928)[2], it is a question in the first place of ontogenetically acquired traits, since no perforation has ever been observed in a child below the age of 7 years. The perforation has a higher incidence among females than among males, and is commoner on the left side than on the right. The lateral division is not shown in the table, no. 13, but can be seen in the Coded Material Description, p. C 1 ff., under "K". This character is nowadays thought to have a genetic basis.

4. *Shovel-shaped upper incisors.* This character has been exhaustively studied by Pedersen (1949) in his thesis on "Eskimo Dentition". Pedersen's paper was followed by Tratman's (1950) comparative odontological study of the teeth of Indo-Europeans and Mongoloids, in which shovel-shaped front teeth, together with generally shorter roots, were interpreted as a characteristic of Mongoloid incisors. Pedersen lays great stress on the high incidence of such front teeth among the Eskimo (83.6 % of all investigated cases). The first worker to detect this character in a large group of material, and who found it to be a feature peculiar to the Mongoloid peoples, was Hrdlicka (1920). Its hereditary nature has not yet, so far as the author is aware, been conclusively established, but its dependence on genetic factors cannot reasonably be doubted.[3] One needs only to cast a glance at its incidence at Västerhus (tab. 13, line 4) to become convinced of this. Detailed records of this character appear in the Coded Material Description.

5. *Sutura metopica persistens.* This suture, a survival from the foetal stage, which more or less completely divides the frontal bone into two halves, and which has already made a brief appearance earlier in our discussions, has been the subject of a great deal of research. For our material, of course, it is of the utmost importance that we should know something of the frequency of metopism among other collections of cranial material from the same period. There is no other medieval material of this kind from Sweden, where Västerhus is the first. We are therefore all the more fortunate that the incidence and development of this character in the Norwegian material and the incidence of metopic sutures at the present day have been investigated in an important

[1] Selby *et al.*, 1955, p. 140.
[2] Martin, 1928, pp. 1003—4.
[3] Cf. also Oschinsky and Smithurst, 1960.

study, combined with X-ray examinations, by Schreiner's successor to the Chair of Human Anatomy in Oslo, Torgersen (1951b).

Working on a kindred material comprising altogether 95 members of 16 families, made up of 13 family groups and all the parents and sibs investigated, Torgersen has come to the conclusion that sutura metopica persistens "depends on a dominant gene, and its obliteration on the homozygous recessive "normal" allele. The probands being exluded, the penetrance is about 50 %". The same author has also investigated 407 crania from N. Norway, "where the frequency proved to be 4.7 % and thus lower than in S. Norway. In 149 prehistoric crania the frequency was also 4.7 %. These crania were of Nordic type — in other words, no Lappish crania; 82 of them were from N. Norway and 2.4 % displayed sutures, while 67 were prehistoric crania from S. Norway with 7.5 %". The incidence had probably increased during the 800 years that roughly separates the historic and prehistoric crania in time, Torgersen concludes.[1]

If we examine the whole of our material of individuals from the 1.5—2 year-old category upwards, when the metopic suture usually ossifies unless it is going to persist, we will find that, of the grand total of 264 individuals (76 males, 80 females and the remainder infants and adolescents), 17 males (22.4 %) and 16 females (20.0 %), i.e. no less than 21.2 % of all adult males + females, display a metopic suture. 16 of the infants and adolescents, or 18 % of this category, also exhibited the character in question, bringing the final total to 20 % of all the individuals investigated.

The pattern of distribution of persistent metopic suture throughout the gravefield at Västerhus is shown in tab. 13, where the individuals are placed in the same order as in the diagrams employed above to show the various metrical characters. The table indicates in general a strong concentration of metopic sutures in the E portion of the churchyard. Between grave no. 80, in the extreme N, and the female lying furthest to the SE, no. 106, we come across no fewer than 9 adult individuals with the suture, i.e. 45 %. From grave no. 8 in the extreme NW to no. 25 or no. 36 inclusive the incidence is just over 35 %, whereas between graves 37 and 79 it represents only slightly over 7 %. We have so far considered only the incidence among the females; the southern, male, side of the churchyard also corroborates the hypothesis that this is an inherited character. Within the area extending from the male no. 89a in the NE to no. 131 inclusive, the frequency is almost 43 %, between nos. 171 and 201 almost 27 %, but in the intervening area it accounts for a bare 8.7 %.

6. *Rotated or impacted teeth.* Under this heading the author has included rotated, markedly misplaced (projecting from the alveolar arch), supernumerary (only 1 case) and impacted teeth. These characters have been combined (for adults) to represent a single "discrete trait" and are shown in line 6 in tab. 13. The exact distribution pattern of its incidence was demonstrated by a plan drawn up by the punch method. Out of a total of 213 dentitions deriving from individuals from birth upwards and comprising 76 males, 80 females and 57 infants and adolescents, 5.3 % of the males, 3.8 % of the females and none of the infants showed impacted teeth. Rotated, misplaced and supernumerary teeth together accounted for 15.8 % of the adult males, 7.5 % of the females and 1.8 % of the infants and adolescents. Since a fairly large proportion of the jaws had lost some of their teeth post mortem, as is fully evidenced by the Material Description,

[1] Torgersen, 1951, p. 210.

the percentage distribution given above represents little more than a minimum frequency. It was considered important, however, that it should be recorded for future investigations, and the punched plan does show an interesting distribution pattern. There can be little doubt that these characters have a genetic basis. We may also mention in this connection a series of important papers on problems relating to the size of jaws, the overcrowding and malocclusion of teeth, etc. by well-known specialists in this field, especially Lundström (1942, 1946, 1948, 1949, 1951, 1952, 1953a, Lundström & Lysell 1953b, 1954a, 1954b. Their work is of great significance for the interpretation of problems connected with the kinship between the various individuals in the Västerhus cemetery, and it is the author's hope, under expert guidance, to return to this aspect again at some future date and to examine it anew.

7. *Sacrum with six (or more) incorporated vertebrae.* This character occurs in 32.9 % of the 76 males, 15 % of the 80 females and 5.1 % of the 78 infants and adolescents respectively. Its distribution throughout the gravefield is also shown in tab. 13; it exhibits a certain likeness to the distribution of "discrete trait" no. 1, the bony bridge in the atlas. The question of its mode of inheritance is dealt with in Martin—Saller (1959) p. 1012.

8. *Sutural bones.* These occur comparatively commonly in our material. We have recorded not only the bones found in the sutura lambdoidea but also those in the sagittalis and in the bregma region. Of 234 individuals investigated, a total of 11.5 % of the males+females had some form of sutural bones (apart from the os incae, cf. below). Of these, 8.9 % ♂♂+♀♀ had sutural bones in the lambdoid suture, while the remaining 2.6 % had small bones lying in the sagittal or coronal sutures. The sutural bones in the lambda are also known as "Wormian ossicles" and these have been studied or written about in recent years by a number of authors including Hess (1946), Torgersen (1951c) Angel (1952) and Torgersen (1954). The two latter scholars interpret them as genetically dependent traits, and Torgersen considers them to be dominant. It is also significant that Brothwell employed this character in the paper cited above.[1] The distribution pattern of sutural bones among the adults at Västerhus is shown in tab. 13.

9. *Torus palatinus.* This characteristic formation in the hard palate is one of a number of "discrete traits" which, after reading Brothwell's arguments, one is compelled to classify under the heading "formerly claimed to be functional, now increasingly interpreted as genetic". Its varied formation has made it necessary for us to record it according to the degree of manifestation, and this has been achieved in the same way as for the bony bridge on the atlas, i.e. by awarding 0, 1, 2 or 3 points and half-way marks between these. Only values of 2, 2—3 and 3 have been included in tab. 13 and a corresponding diagram showing its distribution throughout the gravefield has beaen worked out. Of 234 individuals investigated (76 males, 80 females and 78 adolescent and infants), 5.3 % of the males, 11.3 % of the females (♂+♀=8.3 %) and 1.3 % of the infants and adolescents showed a moderately or strongly developed torus palatinus (2,2—3,3).

10. *Os incae.* This character is not employed by Brothwell who, when giving his reasons for including other sutural bones among his "discrete traits", discounts the inca bone on the grounds that it "would appear to depend upon different factors".[2] We have tentatively used it here mainly because of Torgersens (1951c) statement that "interparietal bones may occur as the only mani-

[1] Brothwell, 1959, p. 105. [2] Ibid. p. 105.

festation of the same genes as those causing metopism". Occipital bones showing this kind of formation, either complete or partial (cf. fig. Pl. 26 among the illustrations of individuals who died as a result of damage caused by external injury, a typical example of the os incae tripartitum being that on male no. 175), have been observed on 6 out of the 76 adult males investigated and on 2 of the 80 females, representing percentages of 7.9 and 2.5 respectively. The distribution plan, tab. 13, shows that the inca bone occurs on the male side in two comparatively distinct concentrations. The two female individuals show only partial surviving sutures in the os occipitale.

Having thus presented our very superficial picture, which does not claim in any way to be complete, of those "discrete traits" which we have experimentally employed, we may proceed to a short discussion of the conclusions that the author claims may justifiably be drawn from the table 13, that have been mentioned so often, on which the distributions of these various traits are plotted.

If we assume that at least the majority of the characters summarised above are wholly or partly dependent on genetic factors, then it follows that where a marked difference is shown by tab. 13 to occur between one particular combination of characters and another, quite separate combination, this must represent a boundary between a geno-system of one particular kind and another, at least partly different system. There is also the natural consideration to be borne in mind that, assuming the Västerhus people to have buried their dead in grave groups of a familial kind or families from a certain part of the settlement, e.g. from particular farms, to have been assigned separate areas of the churchyard, then such breaks in the various combinations of "discrete traits" may reasonably be claimed to corroborate the hypothesis that these traits are dependent on genetic factors.

If we now compare the grave plan (the folding plan) with tab. 13, we will see examples of such hiatuses as we progress from W to E as the following. The females nos. 31 and 41 show a marked divergence from their neighbours, 30—32 and 40—42 respectively. The same is true of the females nos. 63, 90, 94a and 101, and similar indications of groupings can be traced throughout the gravefield. Every time one individual lies somewhat isolated and every time a major departure occurs from the intended alignment of the burials (e.g. northwards from no. 93 and southwards from no. 94), there is a suggestion of some new features among the minor traits and morphological characters. By referring simultaneously to the graph diagrams (Pl:s 11 and 12A) and to what is said on the order of burials in the section of this book dealing with Social History (cf. chap. X), the author suggests that future investigations on experimental series of "discrete traits" among living individuals, and by making use of X-ray procedures wherever suitable, will ultimately prove to be of great value in the search for deeper knowledge of the complications of the human genetic system.

Torgersen's observation, in the appendix to his work on metopism in Norway[1], that nowhere in this part of the world does this character attain so high an incidence as in Norway, immediately suggests — in the light of the evidence given by its distribution at Västerhus — that those eastern and western areas in which a high incidence is exhibited, both to N and to S of the church, and the association of a similarly high frequency with the group of burials that lies close to the

[1] Torgersen, 1951b, p. 210.

apse, could hypothetically be interpreted as a reflection of Norwegian influence in our gravefield. Such an hypothesis and Berthelson's interpretation[1] of the various structural phases would thus appear to corroborate one another in a remarkably convincing manner.

J. BROAD AND DETAILED FORMAL LIKENESSES BETWEEN INDIVIDUALS IN THE SAME AND DIFFERENT GROUPS OF GRAVES

The author has been struck on many occasions by the completely different ways in which morphological likenesses and differences within a given assemblage of cranial material are interpreted by different observers. We may ignore that class of observer that simply and abruptly states that all human crania are the same, and those who think that neither broad nor detailed likenesses are of any scientific significance. The determining factor behind these different interpretations is probably the faculty of plastic — i.e. stereoscopic — vision. There are many who lack this faculty altogether or who have difficulty in developing it, while others find it easy to see a stereoscopic picture as a single image. Possession or lack of this faculty is of great importance, for example, in the selection of pilots for flying duties, in whom underdeveloped stereoscopic appreciation cannot fail to be a handicap; here too training plays an important part. The other category of observers comprises those who can see both similarities and differences in form and, after a brief examination of a collection of crania, can often divide it into different groups, each with its own distinctive features.

Observers of this class, whose interpretation is based primarily on absolute measurements and proportions, often also automatically register such "discrete traits" as have been discussed above.

The author therefore concludes that the ability to judge by eye both general and detailed likenesses in absolute and relative dimensions among a collection of skeletal material, is a criterion of formal appreciation. We shall now proceed to attempt to distinguish individuals displaying such likenesses by this method, although we are fully aware that the full potentialities of the results we achieve will become apparent only after further research in the future.

As stated above, it is not possible to establish a detailed chronological division of the graves — in other words, no stratigraphical sequence can be followed from one part of the gravefield to another.

We must first, by examining simultaneously the tables of cranial measurements and indices in the section on Material and the photographic reproductions of the various skulls, illustrate a few examples of the morphological likenesses that can be observed between crania within certain burial areas and between opposed areas on the N and S sides of the church. Since our sex determinations have shown that the females were interred N of, and the males S of the church, it must follow as a natural consequence that any familial traits should be represented on both sides.

As mentioned in the chapter on Method, the measurement tables show the tres-indices notation originally introduced by Fürst[2] and subsequently modified by Hjortsjö[3], which is of inestimable value especially in such a context as this, where it is a matter of the rapid detection of

[1] Berthelson, 1952, p. 303.

[2] Fürst, 1933a, 1933b.

[3] Hjortsjö, 1947a, 1947b.

broad dimensional likenesses between the neuro-crania in a collection of skulls. Our first example is cranium no. 15, a female buried N of the tower, at the W end. Metrically her skull exhibits strong affinities to that of the male, no. 213, lying S of the tower and only fractionally closer to it. These two individuals are exactly comparable in a large number of their cranial characters, e.g. in the shape in the various normae, of the face, the orbitae, the nasal aperture, nasal root, mandible, mastoidal region, alveolar arch, palate, base of the cranium, etc.

We are then immediately struck by the likeness between the female, no. 17, lying in a place of honour by the N wall of the tower, and this same male, no. 213, and also by her (no. 17) resemblance to the female no. 15. A further important factor has now come into play – the existence in no. 17 of a persistent metopic suture. This is again present in individuals nos. 190, 200a and 210 among the group of males to the S of the tower. The first of these is very similar, both metrically and morphologically, to the females nos. 15 and 17, and the second, no. 200a, is characterised by the great breadth and low height of the skull and the strong bathrocephaloid offset of the occiput. Apart from the great breadth, this cranium displays several morphological likenesses to no. 17 and even more to the female, no. 37, lying N or the E part of the nave.

No. 201, which is also a broad, low cranium, closely resembles the others in the same group, but in one particular feature is directly linked with the female, no. 21, due E of no. 15. Both 201 and 21 are characterised by very similar facial skeletons, apart from their breadth measurements; their mandibles, indeed, differ in shape only in respect of what can be termed sexual divergences, and they otherwise resemble one another very closely both in general and in certain specific details such as the formation of the ramus, the shape of the teeth and, most particularly, a marked parodontosis among the small, but crowded, teeth. As we have already pointed out, Howells (1949) and Clark (1956) have shown how poor is the correlation in breadth measurements between individuals in a collection of material with known kinship connections.

The simple example just quoted also demonstrates the mutual likenesses between the individuals buried to the east, to N and S of the chapel ruins respectively. No. 200a has a clear link further east and on the N side of the church by reason of its similarity to the female no. 37. The measurement tables also corroborate this connection, although the sexual differences and the presence of a metopic suture in the male (200a) mean, of course, that the absolute measurements and indices are dissimilar.

From the male 200a we are led directly to the metopic female, no. 24, who lies on the opposite side of the church, to N of the nave. In fact, she differs metrically from him only in respect of sexually-determined differences, e.g. larger absolute measurements for the male and higher L-B-I for the female. The inclusion of no. 24 brings two further individuals within our field of vision, the young male, no. 219, and the female, no. 8, with a metopic suture, who is buried in the extreme NW.

We have thus travelled from our starting point, an arbitrarily selected cranium at one end of the churchyard, through a chain of parallels based on both metrical and non-metrical characters, which at each link displayed either an almost unnoticeable change in one direction or another or, sometimes, a gradual progression leading on to the next group of graves.

At this stage in our investigation, a glance at the depth plan of the graves, Pl. 10, shows that, in the very area of the churchyard in which we find ourselves, all those individuals that exhibit

a persistent metopic suture (M), with the sole exception of no. 17, are situated either uppermost in their respective groups or so peripherally that the ground immediately surrounding them had not been used for burial purposes. Thanks to Torgersen's investigations cited above into the hereditary nature of the metopic suture, we may venture to suggest that at least those individuals that exhibit such a suture in the area covered by this first example — i.e. the NW and SE portions of the churchyard — were closely related.

Our second example is taken from the adjacent alignment of graves, nos. 171 to 181 inclusive, running at right-angles from the middle of the nave. The burials that lie in the area closest to the long wall nestle snugly up against its foundations and, according to verbal information from the archaeologist in charge of the excavations, had probably become somewhat jumbled as a result of the repeated, successive interments.

In order to illustrate pictorially something of the striking likenesses displayed by the crania from this alignment, we have reproduced three-dimensional photographs, (Pl:s 13, 14), of all the reconstructed crania from that of the young male, no. 171 (closest to the nave) to no. 178, the deepest of the graves in the group to the south, inclusive. Of the seven individuals concerned, nos. 171, 172, 173, 175, 176, 177 and 178, only the two most deeply buried in each group, viz. 171 and 178, lack the persistent metopic suture. Furthermore, all these individuals display strong morphological resemblances in the general shape of the cranium, the modelling of the facial skeleton, the shape of the eye sockets, and so on. Lying close to the nave and to the W of no. 171 lies the male no. 182, who exhibits a metopic suture and provides a direct parallel to the two males killed in battle, nos. 172 and 175 (cf. also their sagittal contours, Pl. 8:D).

But it is not only on the cranial evidence that an investigation into familial relationships may be based. A large number of other skeletal parts have been examined in the course of our study of the Västerhus material, and we may briefly consider a couple of examples of the kind of resemblances that can be used by following the same line of procedure as we have just been discussing. The next stereo-photograph, Pl. 15, is intended to illustrate a collection of clavicles, some from the individuals mentioned above and the others from the three small children, nos. 173, 174 and 179, and the male, no. 181, who is situated somewhat isolated from the rest.

Pl. 15 also shows two pairs of clavicles from each of the two groups, infant no. 161 with male 162 and infant no. 177 with male 178 respectively. It is hardly necessary to comment on the shapes of the bones within each pair; the author would only add that he has on various occasions allowed persons completely unaccustomed to skeletal material to sort this collection of clavicles by shape, and that they have detected precisely the same likenesses as are demonstrated here.

Pl. 15 (bottom) brings us back again to two pairs of individuals from the NW of the ruins, the male no. 12 and the female no. 11, represented by their left and right clavicles respectively and both viewed from the caudal aspect, and the two females nos. 24 and 23, with their right and left clavicles respectively but this time in the cranial view. We note first a distinct difference in shape between the two pairs, but a striking likeness between the two bones within each pair. And secondly, we can state that the differences in shape in the first pair are less than the differences in dimensions (=sexual), while in the second pair the variation in shape is no greater than normally exists between the right and left clavicles from the same individual.

We may now take yet another example from Pl. 16, which illustrates the lower jaws of two

pairs of individuals buried directly adjacent to one another. The three stereo-photographs require no further explanation (the two upper fig:s illustrate the same pairs of lower jaws seen from different angles). Among the striking similarities between them we may mention especially the formation of the fossa retromolaris.

Pl. 16 (bottom) reproduces the mandibles of the individuals whose clavicles have just been examined.

Reference to the Tables of Measurements shows that there are also strong connections between the series nos. 171—181 and the neighbouring group to the W as well.

Passing further east, we find that there is a good example of a link between the male, no. 166b, and the female, no. 63. Both belong to the long-skulled type that we recognized, when discussing connections with the Trondheim material, as Scheidt's "Nordische Langschädel", and which is abundantly represented in the E portions of the Västerhus churchyard. The female no. 89b and the male no. 115a may be mentioned as the most characteristic specimens of this type.

As our last example of what the author chooses to term "morphological kinship likenesses", we have selected some individuals from the NE and SE corners of the churchyard which, as has been mentioned above, have several distinctive features. The two series of crania are illustrated in Pl:s 17 and 18.

The individuals figured for the NE series are the females nos. 79, 80, 82, 84, 85, 87 and 101 and the boy, no. 83.

We were able above to establish from the graph diagrams (Pl. 11 and 12A), which showed a number of absolute and relative measurements, and from tab. 13 dealing with "discrete traits", that these two series, the NE and the SE, not only exhibit wider fluctuations for several of the absolute measurements than do the graves located immediately to W of them, but that they also presented a decidedly higher incidence of metopic suture than their neighbours to the W.

The variability of this group as a whole is, moreover, unusually high in respect of such other characters as, for example, the absolute measurements of the mandible, the facial height and stature, to which this is closely related insofar as can be established from the lengths of the various limb bones.

Thus the female no. 79, illustrated in Pl. 17, is characterised by the robustness of her skeletal structure; the overall facial height is 129 mm, the upper facial height 78 mm and the estimated stature 167 cm, i.e. a good 5 cm higher than the estimated mean stature for all the Västerhus females. The suggestion of high social standing implied by the situation of her grave (cf. chap. X, p. 121) is in conformity with her stature.

The female no. 82, on the other hand, who was buried peripherally out to the NE, had, as we see in chap. VIII on Pathological Changes, probably died as a result of disease that manifested itself in increased brain pressure (encephalitis, tumour?). The overall facial height here is a mere 104 mm, the upper facial height 61 mm and the estimated stature only 157 cm. Nos. 79 and 82 differ not only in their absolute and relative measurements, however, but also in certain distinctive features, whereas the remaining females in this series are more closely linked with no. 82 in this respect. The differences within the group primarily concern the breadth of the mandibles, where two types can be distinguished, one narrow (nos. 84, 87, 90) and the other broad (nos. 80, 82, 85). A few of the many minor traits that serve to unite these females are illustrated in fig. Pl. 17, which

shows the frontal regions of nos. 82 and 85. Note the shape of the foramina supraorbitalia, the nasal root and the impressions of blood vessels.

The SE cranial series (males), illustrated in Pl. 18, starts with no. 120, followed by nos. 121, 122, 128 (a 16—18 year-old boy, hydrocephalic?) and 131. The distinct formal likenesses within this group hardly require comment, and are corroborated by the Tables of Measurements and the illustrations of the crania in our section on Material. Note also the likenesses in the mandible contours in nos. 120, 121, 122 and 131. This figure (18) also illustrates the cranium, jaw (seen from in front) and anterior portion of the lower jaw (from above) of the male no. 120 and the equivalent views of the 10—11 year-old boy, no. 127. These illustrations are intended to demonstrate the characteristic features of the dentition that these two individuals have in common. Note also, besides the serious crowding, the similar projection of the incisors. If we are correct, as seems reasonable, in assuming that the churchyard grew centrifugally (from the church) and simultaneously from E to W, then the male no. 120 must have been buried before the child no. 127.

The alveolar arches of the maxillae of nos. 79, 90, 122 and 128 are illustrated in order to demonstrate the rotated teeth (in all cases), asymmetry (no. 128) and the shape of the dental arch with crowding and open spacing of the teeth respectively. The author intends in the future, to employ these characters in a special research project.

At the bottom right of Pl. 17 is a full-face view of the cranium of female no. 101; it is intended to illustrate the distinctive features of the facial skeleton of this delicate skull type, classified as Mediterranean by Schreiner (cf. above, p. 67) and which is well represented as one element at Västerhus and also occurred in the Tröndelag in Neolithic contexts.

The suggestion that the morphological parallels and likenesses of which we have given examples might indicate close kinship, will doubtless meet with a critical reception in the atmosphere of scepticism that modern anthropological scholarship nowadays breeds.

Nevertheless, unofficial information from various countries apparently indicates that the crisis faced by what has been labelled "classical" or "old-fashioned" anthropology has been overcome. Leading exponents of anthropology have most recently adopted a less extremist attitude and A. E. Mourant (1959) has openly stated in the British Medical Bulletin that both anthropometry and blood-group analysis "used with full precautions against both technical and statistical errors ... supplement one another to a remarkable extent, and that both are necessary in order to give the fullest possible information about the relations between populations".

The suggestions put forward above concerning the relationships between individuals in particular groups of graves and, as a consequence of the separate interment of adults according to sex, the relationships between such groups directly opposite one another to N and S of the church, appear to the author to be so self-evident that the morphological indications may in fact be considered as mere corroborative evidence. The counter-argument, that it is nevertheless impossible to point to any particular individual and go on to prove whether or not he was related to his neighbour, is unfortunately still valid, and will remain so until it becomes possible, with the aid of X-ray techniques on living material, to follow up the possibilities that the Västerhus material contains, despite the complicated order of burial, for basic research into human genetics. It has been the author's prime object in this chapter to draw attention to the great opportunities

that a group of skeletal material can have to offer in this field, just as it has been the methods of approach and techniques that have been his main concern throughout the book.

Since we have already employed the term 'brachycephalisation' (p. 72 above), with references to the literature on this subject, and have suggested that a comparative shortening of the skull may have been a characteristic and well-known phenomenon of early medieval times, we may take this opportunity of considering briefly the extremely important, many-sided and difficult problems raised by the secondary brachycephaly that we have observed at Västerhus. First, however, we may recapitulate some of the results described earlier.

As a result of our study of superimposed interments, we have established a progressive tendency towards shorter skulls with the passage of time. This has been correlated with the occurrence of persistent metopic suture, which is partly a progressive character indicating the evolution of the human cranium, and partly dependent on hereditary factors. We have, moreover, been able to demonstrate from a number of examples that the types of cranium we have found in our population are morphologically closely linked to the prehistory of the neighbourhood, and indeed, in respect of one of the basic types, it is possible to speak in terms of continuity right from the Stone Age. Such hypotheses as these are not, of course, unsubstantiated; they are strongly supported by the results given by modern blood group genetics for comparable regions in both this country and Norway. Beckman's (1959)[1] thesis and the many maps given in it confirm the connection between Jämtland itself and Norway in respect of blood group distributions.

As far as the local development at Västerhus and its interpretation are concerned, the clearest indication of what the tendencies were is to be found in an important work by Abbie (1947).[2] If we correlate our parallel-diagrams and morphological observations with Abbie's theories on the behaviour of cranium form in homogeneous populations and isolates, we will find, in the author's opinion, a large number of new ideas demanding investigation in the course of further research on our material. Here we can do little more than mention a few such lines of study.

If, for example, we examine the male statures at Västerhus and their relation to the L-B-I of the same individuals, we find a direct connection with points 2, 9 and 10 in Abbie's summary:

"2. The evolutionary record shows a progressive increase in mean stature together with a progressive rise in mean cephalic index."

"9. There is a moderate negative correlation between stature and cephalic index in homogeneous groups for adult males." (cf. our diagram, Pl. 9)

"10. ...: secondary brachycephaly — associated with increasing stature — reflects the trend of human evolution as a whole."

Again, an examination of our series of illustrations of crania from various parts of the churchyeard recalls Abbie's results expressed in his points 4 and 5:

"4. There is no significant correlation between head form and size of jaws in either sex. However, the rounder-headed female is significantly more prognathous than the male, and this is a secondary sexual character.

5. Head form is probably determined by so many independent variables that solution on simple Mendelian lines is very difficult. Since stable forms are preserved by isolated groups, however, hereditary transmission must play a part in maintaining them."

[1] Beckman, 1959, cf. his map 40, p. 159, on West European Influence, and also p. 181.

[2] Abbie, 1947, pp. 253—56.

The author is of opinion that we are probably justified in considering the Trøndelag with its surrounding areas, including western Jämtland, as a single anthropological unit in the Middle Ages, comprising several, in some respects quite different biotypes, each through the agency of time and place, setting its own particular mark on its population, but in which also a broad historical continuity and uniformity can still be quite clearly traced. More material from a variety of sites of different periods in this region is what is now needed for a deeper study of the fascinating problems at which we have merely hinted.

CHAPTER VIII

Skeletal parts showing pathological change and damage resulting from injuries

Any material of the kind and magnitude of that dealt with here can be expected to display a number of pathological skeletal changes and include individuals that have suffered damage from injuries. To deal exhaustively with every such specimen would require a volume to itself and qualifications that the author does not possess. The short descriptive comments included here are intended primarily to draw the reader's attention to the value of the material for the history of pathology. Several of the diseases shown by the skeletons are of interest from the point of view of general demography and social history, and the same is true of damage caused by cuts, stabs and blows, that can be attributed to specific types of weapon, warfare, etc. Nor should the pathological incidence pattern be forgotten, for this can in several instances be compared with the morphological picture to provide information of value in both principle and practice for the study of human genetics.

All the pathological changes have, for practical reasons, been collated in a summary table (Tab. 14), from which the two commonest forms of arthrosis, disc degeneration and arthrosis deformans, have subsequently been abstracted for special treatment (Pl. 19 and tab. 15).

The chapter concludes with a short description of the material investigated, individual by individual in the sequence of the numbering of the graves, with references to the illustrations in the Plates section.

For the sake of completeness, it should be added that, with regard just to the pathological finds, it is seldom possible to show their exact extent in material recovered from the ground. This applies especially to the oldest individuals, whose skeletons are often porotic or secondarily decomposed, or have crumbled to such an extent when lifted that it is impossible to trace the limits of the pathological change, e.g. throughout the whole of its incidence on the spine.

Insofar as the author has thought fit in this context his study has been based on Weinmann and Sicher (1955) for the formulation of this chapter.

In his wide output of works on large and small skeletal groups from the prehistoric and medieval periods in this country, C. M. Fürst has given detailed descriptions of extant pathological finds and not infrequently illustrated them with first rate representations, especially during the first two decades of this century. Not all of Fürst's publications containing such information will be cited here, but reference to the major papers is given in the bibliographical list. The importance

attributed to pathological expertise in such contexts is shown by several facts — the great abundance of works in the palaeopathological sphere (Moodie 1923 and others have been consulted here), the ever-increasing frequency in recent years of investigations into the medical and anatomical aspects of large skeletal groups, and a clearly detectable trend towards the opening of more and more tombs to examine the remains of historical personages[1, 2].

Among the more extensive groups of comparative material given in chap. II the pathological changes in skeletal parts of the Lapps have been exhaustively treated by Schreiner 1935 and those from Greenland in Jørgensen's thesis of 1953. In the remaining literature dealing especially with archaeological or historical material mention should be made of the works by Hjortsjö and Møller-Christensen, both published in 1958 and both of undoubted scientific authenticity despite their partially "popular" nature.

Within the Västerhus material[3] the extent of the sequelae of disc rupture diseases will be dealt with first, primarily in the lumbar spinal region where they are characterised by the formation of osteophytes on the superior and inferior surfaces of the bodies of the vertebrae, noting their size and extent. Lindblom's fundamental works and wide clinical experience together with his investigations on disc degeneration among American Indian and Eskimo tribes, Lindblom 1951, 1952, 1957, etc., have thrown much light on the pathogenesis of this folk disease.

Of the total (79 individuals) of 37 female and 42 male adult skeltons from Västerhus showing pathological change, 47 (23 women and 24 men) exhibit disc degeneration changes to a greater or lesser extent in the lumbar and/or thoracic vertebrae. These degenerations, which seem to have affected both sexes to roughly the same extent occur in only insignificant proportions among the adult age groups (10 individuals), whereas no less than 37 of the 71 mature and senile individuals in the material suffered from them. It is clear that this complaint is in the nature of a disease of old age. Only one individual, a woman, in the 20—25 age group exhibits fully developed osteophytes on the lumbar spine; over 1/3 of all the adult skeletons in the material show disc degeneration.

Lindblom (1951) could demonstrate, from his investigations on 100 lumbar spines from prehistoric skeletons and 2,000 X-rays of present-day Swedes, a marked difference in the distribution of osteophytes on the borders of the bodies of the vertebrae. In the modern material they reached their highest frequency on L V, while in the prehistoric the osteophytes occur most abundantly in the middle lumbar region.

In the light of this comparative material only the lumbar degenerations are considered here, and an objective picture of the distribution of the osteophytes has been achieved by empirical means by transferring with the use of a pencil and tracing paper the outline of the superior and inferior surfaces of the lumbar vertebrae and the superior surface of the sacrum of each individual

[1] Cf. the throughout investigations by Ingelmark, 1943, p. 287 ff.

[2] Anthropological investigations have been carried out, as is well known, on the interred remains of Gustav Vasa and his queens, of Johan III, Eric XIV, Gunilla Bjelke, Erik Soop the first colonel of the Skaraborg Regiment, privateer captain Lars Gathenhielm, general Robert Douglas, Svante Nilsson Sture, Emanuel Swedenborg and others, either in the course of restoration work on the churches where they are buried or as completely independant anthropological enterprises.

[3] The MS of this chapter has been read and the diagnosis it contains checked by professors F. Henschen and K. Lindblom of the Karolinska Hospital; the former is particularly well aquainted with the deviations that occur from the normal skeletal structure and is the author of several works in the palaeopathological sphere, and the latter, among other things a specialist in diseases involving disc rupture, is professor of Radiological Diagnosis.

onto drawing paper, and subsequently, as shown in fig. C, Pl. 19, on the basis of the proportions of the osteophytes, awarding 0, 1, 2 or 3 points to the ostephyte-affected area on each such articular surface. These are absolute values for the whole of the pathological material and not relative for each individual lumbar spinal area.

The number of individuals concerned is comparatively small — only 39 lumbar spines with developed osteophytes (19♂, 20♀) in all — but the results of the investigation are worth close examination, especially since they confirm Lindblom's observations. Diagram A. shows the osteophytic formations cranially and caudally on each lumbar vertebra; and from this it can be seen, as Lindblom (1951, 1957) found, that in women L V is usually the most seriously affected, while the others display less extensive and fairly evenly distributed osteophytes. To a great extent, too, the osteophytes on the superior surfaces seem to be more extensive than those on the inferior.

The tendencies on the male lumbar vertebrae are somewhat different. A more marked distinction can be observed both in frequency and area between the osteophytes on the superior and inferior articular surfaces of L III, L IV and L V; L IV exhibits a lower frequency and smaller osteophytes, the general distribution throughout the whole region thus being more uneven, with the highest values situated in L II, L I and L III. These tendencies apparently fully confirm the observations of Lindblom.

In diagram B, the formation of osteophytes, on the basis of the points awarded as above, is re-assessed on the average values for each of the five joints L I—II, etc. up to L V—S 1. This procedure results in the demonstration of a clear distinction between the osteophytic development in males and females. From the joint L III—IV caudally down to the sacrum the osteophytes increase in dimension among women, whereas the opposite occurs among men, where the dimensions decrease as one moves down. How this caudally increasing disc degeneration among women is to be explained cannot be answered.

It is difficult to find any correct basis for a comparison between the incidence of disc rupture diseases and their development now and at Västerhus. The material basis of modern investigations derives primarily from hospital patients, who in many instances were probably admitted for complaints other than back ache. Moreover, it is difficult to determine to what extent the average age of these individuals falls above or below those suffering from disc degeneration from Västerhus.

The fact that fully developed osteophytes could be observed on the lumbar spine of every third adult inhabitant of Västerhus in the early medieval period, and that such exostoses were roughly equally common among women and men, suggests that "back ache" then, as now, was a folk disease.

The second commonest form of skeletal damage after disc degeneration was, to judge from the skeletal material, arthrosis deformans. Several of the resulting sequestra are probably the after effects of some previous dislocation, while others possibly represent cases of both suppurative arthritis and polyarthritis. These articular changes are much more common among women than among men; out of 37 female individuals exhibiting general pathological changes, 15 or almost 40 % show articular deformations, whereas the corresponding figure for 40 males is 5, or 12.5 %.

In tab. 15 the various cases of arthrosis deformans have been brought together and classified

under their respective joints; the distribution between women and men would appear to be of some interest, and this must therefore be considered more closely. Here again, however, the material is too small for any definite conclusions to be reached:

a) Arthrosis deformans of the mandibular articulations occurs in only two individuals, both women.

b) Five women and two men exhibit changes in the shoulder joints; among the women five right arm and three left arm sequelae occur, and among the men, on the other hand, only right arm ones.

c) Elbow joints with arthrosis deformans occur in six women but only two men. Five of the women have the right radius and/or ulna affected, in one case both radii, and in one other the left radius and ulna. The two men show changes in the articulus cubiti on both elbows in one case and on the left in the other.

d) Changes in the hip joint occur only among women (six individuals); four of these are affected on the right, one on both, and one on the left sides.

e) Abraded knee joints were observed in only two cases, one woman and one man, both on the right knee.

Like spondylosis deformans the arthrotic complaints are partly to be considered as diseases of old age, and a general survey of those tabulated in tab. 1 and tab. 15 fully confirms this.

An alternative explanation is that the women, by reason of hard work in the household and the fields, in a trying climate, were more liable than the men to the risk of contracting arthrotic diseases.

All the cases of osteitis have been brought together in a separate column in summary table 14. Since deeper investigation of these demands specialist knowledge and X-ray analysis, and the present work aims primarily at the treatment of anthropological and demographic problems without following the medical evidence in over-much detail, the changes observed are reported only in the conviction that the expert, with the aid of the illustrations, will be able to form an opinion of the individual cases. An opinion on those of the three children "41 a", "Div. Ei" and "Div. Ep" would be particularly interesting.

Sequelae of diseases of the central nervous system have been observed on the individuals from grave 82, a woman, and 128, an adolescent. The woman was suffering from an increased intra-cranial pressure, most probably caused by a brain tumour, manifested by the almost complete disintegration of the tabula interna as a result of the rise in the pressure of the brain, only small granules surviving immediately adjacent to the diploe (fig. Pl. 22). The adolescent 128 is a hydro-cephalic showing the characteristic enlargement of the brain cavity and abnormal erosion of the hypophyseal fossa (fig. Pl. 23).

A few cases of avitaminosis could be established by means of their sequelae, namely one certain case of rickets, one of scurvy? or rickets and one or two of disturbances in the mineralisation of the teeth (possibly rickets). Illustrations of the two last will be found in figs. Pl. 20 and 27.

There seems to be a widely held opinion that rickets was of very common incidence in the past. In discussions on the pathological picture in prehistoric and medieval times the general interpretation is apparently influenced by the prevalence of avitaminosis during the childhood of the present older generation, and it has been thought reasonable to draw from this the conclusion that the situation had been worse the further back in time one went.

It may seem surprising that we at Västerhus could distinguish only one or two more or less clear cases of the effects of rickets. Yet during the twenty years and more that the author has spent studying human skeletal material from archaeological excavations — and in these finds several hundred child skeletons have occurred — rickets could be established in only a couple of cases on the evidence of the dental or skeletal material. Thus, for example, the cremated skeletal material from four large la Tène cemeteries in Västergötland, one at Kyrkbacken in Horn parish, one at Mellby in Källand district, one at Bankälla and the fourth at Stora Ro[1], includes over 120 groups from children and young individuals in which the crowns of the teeth are predominantly sufficiently well preserved to admit of identification and age determination. In no single instance have the changes in the enamel-dentine cap that characterise rickets been positively identified. Moreover, in the extensive collection of teeth deriving from ordinary interments in this country from the Stone, Bronze and Iron Ages and from the Medieval Period, rachitic changes are excessively rare.

Møller-Christensen 1958[2] gives an account of the incidence of this disease in the Danish medieval material from Æbelholt monastery, and he comes to the same conclusion, finding only 9 cases among 800 skeletons. The same author also refers to the fact that H. A. Nielsen (1859–1932) detected rickets in only six instances from the Danish Stone Age and three from the Iron Age. The most reasonable explanation of this low incidence of rickets is undoubtedly the fact that the infants were breast fed for a considerably longer period than nowadays, and Møller-Christensen points out that this is still the case among several primitive peoples.

The distribution and frequency of avitaminosis in different prehistoric periods offers a rich field for research, which the above-mentioned examples make a matter of urgency. It might perhaps be possible, by taking thin sections of the dental material from such periods and examining the exposed recurrent rhythmic structures[3], to make further advances towards the solution of this problem.

We must now pass on to the skeletal lesions resulting from injuries, whether of an accidental or intentional nature. One of the most extensive investigations ever carried out on such damage is that of Ingelmark[4] on the skeletons from the mass burials following the battles against the Danes in 1361 at Visby.

In table 14 the injuries shown in our material are divided into types so that fresh, and likewise in the majority of cases fatal, ones on the one hand and healed ones on the other are each classified under the different sexes.

The following examples will illustrate the material: the two individuals, the man 89a and woman 89b, interred immediately NE of the apse, both exhibit healed fractures caused by extensive injuries, the man to his left leg and the women to her right forearm and hand (fig. Pl. 22). We are probably dealing here with accidental injuries suffered by both individuals, possibly on the same occasion.

The men 172, 175, 178, 183 and 195a, all lying immediately S of the nave and possibly also the man no. 53 placed among the women N of the choir show the marks of several healed injuries and also, in every single case, one or more blows causing immediate or rapid death.

[1] Gejvall, 1947, 1948, 1951, 1954 (cf. Bibliography).
[2] Møller-Christensen, 1958, p. 187 ff.
[3] Gejvall, 1948, p. 175, cf. also ibid., fig. 14.
[4] Ingelmark, in Thordeman, 1939, Part I, p. 149 ff.

By referring tho the respective descriptions and illustrations of these traumata, we can soon combine the evidence of all of these and conclude that it was a universal practice for burial places of outstanding honour to be assigned to or selected by warriors (plan I). Whether they died in battle or survived the wounds they received, their high social standing was confirmed by burial close to the south wall of the nave, just as their physical constitution is attested by especially well-developed muscular attachments and an average bodily stature greater than that of the other men.

Table 14 also shows clearly that no fresh skeletal wounds were observed on any of the women, and only four women exhibit healed injuries. In no case is the healed injury on the head. Comparable figures for the men are 17 individuals with head injuries, death following immediately in 11 and possibly 12 cases; the remainder represent lesions that had healed intra vitam. We can thus see that the clearly greater physical strength, the aggressiveness, that characterises the male sex is reflected in the higher incidence of bodily injuries among the men, while the distribution of pathological changes in the material is more even as between the sexes.

Two more problems of general demographic significance remain to be mentioned: the analysis of skeletal changes indicates that, apart from damage resulting from gross violence, c. 1/3 of the adult individuals exhibited at the time of death a pathological skeletal structure in some form or other. Is this to be considered a high figure? Can we detect any general tendencies in the material as a whole? The problem is one of extreme difficulty, not least because of the lack of comparative material from the present day from which we might hope to be able to establish the actual after effects of comparable changes on living persons.

If we try to build up a general picture by adding to the evidence already considered other available information of different characteristics, e.g. the many cases of heavy abrasion of the dental occlusion which in many instances led to infection of the root tip and the premature loss of the teeth, or the comparatively striking muscular relief in general and in the upper arm in particular, even among the women, the high rate of infant mortality, or the low average life span (insofar as can be established osteologically), that general picture is one of a community leading a hard life in face of physical strain and probably of privation, and oppressed by an adverse climate.

Only about 3 % of the total of up to 225 skeletons of children and adolescents exhibit macroscopically detectable pathological features. Of this small number, probably half are due to inflammation, the remainder represent avitaminosis. The high infant mortality rate should therefore in all probability be due to factors of a hygienic or climatological nature. It can hardly be possible for its cause to lie elsewhere than in acute infections such as have left no detectable trace on the skeletal frame before death superseded.

The most reasonable guess as to their nature in the case of the infants is of respiratory complaints and their after effects, otitis, etc. which naturally would have occurred epidemically in the cold seasons of the year. Osteological proof of this is difficult to detect. Diagnosis from excavated material is rendered difficult if not impossible because precisely those portions of child skeletons which we would in general be justified in terming 'type fossils' from an archaeological point of view, namely the petrosum bone with the inlying auditory organ, often prove on close examination to have suffered post mortem disintegration. The possibility of detecting in such material,

e.g. cases of inflammation of the middle ear at an advanced stage, is quite conceivable, and represents an almost untouched field of research. It is equally certain that the unknown factor of disintegration versus gradual post-natal ossification of the skeletal parts relevant to this sphere of interest will prove troublesome, when it comes to distinguishing the normal from the pathological. Other methods of approach may perhaps hold promise. Continued studies of the annual rhythm of childbirth frequency among primitive peoples along the same lines as those now in progress among civilised populations[1] together with research into the correlation between dental development and extremity bone length, etc. might perhaps lead to the possibility of estimating, even for a skeletal material group, the probable season with the highest infant mortality rate, — but this may be mere wishful thinking!

LIST OF PATHOLOGICAL CHANGES, SKELETAL LESIONS, ETC. IN THE DIFFERENT GRAVES[2]

Grave 1.

The young woman in this grave suffered injury to the right elbow joint, probably long before death and perhaps before the limbs had completely finished growing. As a result serious deformation arose on the whole distal articulating surface of the right humerus; the dislocation must have been violent. Changes in the epicondylus ulnaris and radialis, the trochlea and the proximal parts of the right radius and ulna are clearly shown in Pl. 20.

Grave 5.

The spinous process of the 5th lumbar vertebra has its left arch fused with the processus articularis cranialis of the sacrum, resulting in an asymmetry. N. B. An asymmetry on the same side in the processus spin. sacri but without fusion occurs on the male skeleton in grave 4.

Grave 6.

The spinal column of this individual has decomposed badly post mortem. It exhibits serious spondylosis deformans in the thoracic vertebrae and atrophy of the vertebral bodies (fig. Pl. 20). The cranial vault is very much thickened!

Grave 10.

Apart from the porous consistency of the whole skeleton, of a 2—2.5 year-old infant, there is a change in the cranial vault consisting of an apposition of foreign osseous substance occurring in the tabula externa in both the frontalia and the parietalia. Such changes usually are associated with rickets or anaemia "Bürstenschädel". Letter, 1949, (fig. Pl. 20).

Grave 19.

One lumbar vertebra of this probably 50—60 year-old woman has a heavily atrophied and abraded body, probably L I, injury from rupture (fig. Pl. 20).

Grave 20.

This over-60 year-old woman exhibits malignant articular changes, arthrosis in capita humeri, capita femoris, and several epiphyses, and also severe spondylosis (fig. Pl. 20).

The skeleton is in poor condition, of thin and fragile consistency.

[1] Otto und Reissig, 1959, p. 107 ff.

[2] The author has in the main followed the nomenclature prescribed in the 5th edition of "Statistisk klassifikation av sjukdomar och dödsorsaker" published in 1957 by Kungl. Medicinalstyrelsen, Stockholm.

Grave 21.

In the lumbar spine slight spondylosis deformans can be detected, best seen between L II and L III and between L IV and L V (L V has become partially sacralised) (fig. Pl. 20).

Grave 22.

This exhibits a right femur with pseudarthrosis caused by a fracture of the collum leading to a loose caput femoris suffering serious change (fig. Pl. 20). The humeri show unusually strong muscular relief for a woman; this may perhaps be due to increased muscular activity because of the inability to walk after the collum fracture. Degeneration changes, some in the form of atrophies, also occur in the thoracic and lumbar vertebrae (fig. Pl. 20).

Grave 23.

In this 50—60 year-old woman we note the effects of several disc degeneration changes in the spinal column, e.g. in the cervical and thoracic regions.

Grave 26.

In the enamel-dentine cap of the teeth of the upper jaw occurs a developmental disturbance in the form of transverse striations; probably rickets (fig. Pl. 27).

Grave 31.

Pathological change of both processus articulares mandibulae (arthrosis deformans).

Grave 32.

Slight sequelae of disc degeneration in the lumbar region.

Grave 34.

L IV and L V show changes resulting from ruptures (L V partially in synostosis with sacrum).

Grave 40.

Arthrosis between L IV and L V resulting from a rupture (fig. Pl. 20).

Grave 41a.

Infant with osteitis? in left ulna (the same picture in X-ray as for the ulna of child "Div Ep") (cf. fig. Pl. 23).

Grave 42.

Spondylosis deformans of moderate extent in the lumbar vertebrae, fairly evenly distributed from L I to L V incl. (fig. Pl. 21).

Grave 43.

Moderate spondylosis in the lumbar spine, most clearly visible in L IV and L V (fig. Pl. 21).

Grave 45.

Moderate disc degeneration changes in the lumbar region, most strongly developed laterally on L III, L IV and L V, (the last on both this and the two preceding individuals partially incorporated into the sacrum and thus partially sacralised)(fig. Pl. 21).

Grave 46.

A callus formation c. 5 cm proximally from the malleolus on the right fibula. Severe spondylosis deformans and atrophies throughout the spinal column, vertebral fusion as well in the thoracic region (figs. Pl. 21). N. B. the age of the individual.

Grave 47.

Slight spondylosis deformans on L III, L IV and L V (fig. Pl. 21).

Grave 50.

Arthrosis deformans on capitulum ulnae dex.

Grave 51.

The skeleton is characterised by severe underdevelopment of the whole of the right side (longitudinal measurements: humerus dex. c. 304, sin. 336, radius dex. c. 214, sin. 250, ulna dex. c. 231, sin. 269, femur dex. c. 433, sin. 441, all in mm.). This underdevelopment is osteologically most striking on the right scapula and clavicula, humerus, radius and ulna, femur and the right half of the pelvis, where a luxatio coxae shows clearly. It is also reflected in the sacrum and in a distinct scoliosis. A remarkably severe thickening and distention of the diploe in the frontalia and also a considerable thickening in the parietalia can be observed. The arteria and vena meningiae media have cut down deeply as a result of apposition of new osseous material. It is noteworthy that in the facial skeleton the left zygomatic arch is considerably thinner and lower than the right; the left half of the body of the mandible is considerably narrower than the right, and the left proc. mastoideus much smaller than the right. The underdevelopment is thus reversed in the facial skeleton. The pathological changes in this individual could result from either a brain injury received at birth or alternatively be a sequel of poliomyelitis? The changes in the cranial vault are post-climacteric? (fig. Pl. 21).

Grave 52.

Slight spondylosis deformans in the lumbar region, most evident on L IV and L V. (L V partially sacralised but not in synostosis with sacrum).

The processus articulares of L IV have broken away from the body of the vertebra and exhibit a strongly developed pseudarthrosis which also affects the processus spinalis of L III.

Grave 53.

The cranium of this male individual buried among the women N of the church, has suffered serious injuries resulting in death. A blow from the front from an edged weapon struck the cranium in the forehead; the slash extends from an area c. 4 cm directly above the nasion posteriorly to the parietal bone. Both the frontal bone and the facial skeleton were thus shattered. On the inferior surface of the parietal bone, directly above the foramen magnum, occur a number of larger and smaller areas of thinning of the tabula interna, which might perhaps represent pathological changes.

Grave 54.

L V on this woman has its dorsal portion detached (processus articulares caudalis plus spinalis).

Grave 65.

Severe arthrosis and disc degeneration changes over the majority of the vertebral column. Arthrosis deformans most clearly visible on the right caput femoris and the distal articular surfaces of the radius and ulna on both sides; the right ulna has a healed fracture c. 5 cm from the capitulum. The left radius too with clearly manifest articular changes distally. N.B. The cranium has a thick, porous diploe in the frontal and parietal regions and moderately deep arachnoid pits (fig. Pl. 21).

Grave 66.

This individual is characterised by a marked underdevelopment of the right scapula and clavicula, humerus, radius and ulna, and tibia and fibula (Longitudinal measurements: humerus dex. c. 263, sin. 329, radius & ulna dex. c. 226, sin. 262 mm); on the other hand, the right femur is somewhat longer than the left. It should also be noted that the right half of the pelvis shows underdevelopment. Whether these phenomena are of the same kind as those in grave 51, i.e. of a pathological nature, or whether they are asymmetries, will not be disussed further here.

Grave 67.

This woman exhibits both a pathological change in the right corpus mandibulae visible especially on its lateral side in the middle of the alveolus for 7- like a breaking-up of the bone tissues, and slight degeneration sequelae on the fourth lumbar vertebra. Severe thickening of the cranial vault, especially in the frontal region.

Grave 71.

Moderate disc degeneration sequelae on L IV and L V (fig. Pl. 21).

Grave 76.

The right processus articulares mandibulae show clear degeneration changes, arthrosis, accompanied by an oblique posture of the mandible and uneven abrasion. The left processus articulares mandibulae have a restricted field of articulation resulting in slight abrasion of the teeth on the left sides of the jaw.

Grave 80.

On both tibiae laterally from and including the centre of the diaphysis on the right inner face, further up on the external face and down by the distal epiphyses occurs a foreign osseous covering, fairly strongly developed in places, with its longitudinal structure following the longitudinal axis of the bone; the same type of change could be noted on the corresponding areas of both fibulae (periostitis?).

Grave 82.

Pathological changes occur both in the cranium, in that the tabula interna has to a great extent become disintegrated as a result of increased pressure of the brain, and survives only as small granules, the hypophyseal fossa is distended and one of the arachnoid pits in the right parietal close to the sagittal suture c. 20 mm posterior to the bregma has been broken through; and also in the left tibia and fibula which had healed incorrectly following a fracture (fig. Pl. 22).

Grave 85.

A change appears on the humeri in the proximal portion where, in the region below the epiphyses, the corticalis is heavily abraded. Because of post-mortal damage, the right caput cannot be set in its correct position; the left, however, occupies such a position in relation to the diaphysis as possibly to suggest a pseudarthrosis resulting from dislocation. Slight spondylosis deformans laterally on L III.

Grave 87.

Both capita humeri with strongly developed arthrosis deformans, most severe on the left. Developed spondylosis deformans from L II to L V inclusive and the promontory region of the sacrum (fig. Pl. 21).

Grave 89a.

A number of badly healed fractures characterise this skeleton. The left lower leg is the worst affected. This has suffered a direct injury causing both a break in the middle of the diaphysis of the tibia and two breaks in the

fibula. Both bones have subsequently fused together resulting in the formation shown in fig. Pl. 22 (difference between dex. and sin. tibiae 50 mm). There is also a healed lesion resulting from trauma, clearly caused by a stab with a sharp instrument, penetrating deeply into the right of the pelvis, more exactly almost in the middle of the linea glutea dorsalis. The stab had entered through the belly and been arrested by the ilium. Malignant spondylosis deformans is also exhibited in the lumbar vertebrae (fig. Pl. 22).

Grave 89b.

The joints of the forearm and both hips show severe abrasion from which arthrosis deformans has resulted. The distal end of the right radius has fused fast with the whole of the middle hand as a result of injury (a bite or a blow?). There is also a change at the distal end of the right ulna from the same cause, and a pseudarthrosis has arisen (fig. Pl. 22). Conspicuous spondylosis def. in L I—V and also in the thoracic region.

Grave 90.

Spondylosis deformans, esp. in L III and L IV (fig. Pl. 22).

Grave 91.

Spondylosis deformans in the lumbar (fig. Pl. 22), the thoracic and the cervical vertebrae; a developed pseudarthrosis and arthrosis deformans in the right shoulder joint and the associated scapula.

Grave 92.

A number of articular changes on this woman result from an injury suffered intra vitam. Thus both processus styloides ulnae are badly deformed, the processus styloides radii dex. and (probably due to an earlier fracture in this region) the caput femoris sin. exhibit clear abrasion, and its collum is contracted, change is also found in the facies lunata of the pelvis, and finally a change of a traumatic nature occurs in the malleolus fibulae sin. (fig. Pl. 22).

Div. E, i.

Severe osteoporotic changes most apparent in both radii (cf. X-ray photo in fig. Pl. 23).

Div. E, p.

An infant, deceased at the age of 6—9 months, with changes in the left ulna and radius. The X-ray (fig. Pl. 23) shows osseous layering on the original corticalis. Prof. L. Lindblom, who has kindly taken and examined this and the previous photograph, considers this to be some form of osteomyelitis.

Grave 93b.

Severe abrasion is exhibited here on the right patella and on the distal articulating surface of the right femur.

Grave 97b.

The cranial articulating surfaces of the bodies of both the thoracic and the lumbar vertebrae show changes partly of a spondylotic and partly of a ruptural character (fig. Pl. 22).

Grave 98a.

In the lumbar region of the spine there occur extensive and partially malignant spondylosis deformans and atrophies; so too in the thoracic and cervical regions (fig. Pl. 22). In addition arthrosis deformans is present on the proximal and distal epiphyses of the left radius and ulna.

Grave 101.

This skeleton exhibits a strong asymmetry, in that all the long limb bones of the left upper extremities are considerably shorter than those on the right (longitudinal measurements: hum. dex. 292, sin. 283, rad. dex. 229, sin. 215, ulna dex. 241, sin. 234 mm). Polio?

Grave 104.

A powerful blow to the left temporal region has resulted in a c. 9×5 cm-large hole, causing death (fig. Pl. 26).

Grave 109a.

Extensive spondylosis deformans occurs in the lumbar spine. The dorsal arches of the two last lumbar vertebrae are loose (fig. Pl. 23).

Grave 111.

Moderate spondylosis deformans on L II—IV, arthrosis deformans on the right caput humeri and the proximal phalange of the right thumb (fig. Pl. 23).

Grave 115a.

Changes here consist of moderately developed degenerations on the lumbar spine with developed osteophytes especially on L III and L IV (fig. Pl. 23).

Grave 117.

Here the left radius and ulna have coalesced. The union runs from an area c. 1 cm distally from the tuberculum radii sin. and affects the whole of the capitulum and collum radii which have amalgamated with the corresponding proximal part of the ulna. The capitulum radii has lost its shape and, possibly associated with a pseudarthrosis, has assumed an oval cross-section. Comparison between the distal articulating surfaces of the right humerus and the left shows that the left capitulum is almost completely absent. It is therefore possible that the above-mentioned changes could be of a congenital nature rather than be acquired as a result of external injury intra vitam (fig. Pl. 23).

Grave 121.

Several serious decompositions of the vertebral bodies occur in both the thoracic and lumbar regions. In the thoracic region bony structures appear bridging the space between the bodies of the vertebrae; the disc degeneration changes in the lumbar region are moderate. Conspicuous asymmetry (longitudinal difference of 12 mm) between the humeri, the dex. being the longer (fig. Pl. 23).

Grave 122.

Asymmetrical L V and sacrum, the former incorporated in the sacrum. Sequelae of a fracture occur on the ramus ossae ischii.

Grave 128.

The cranium of this infant is unusually large for its age as determined from the teeth. Note primarily the strong development and lateral extension of all the cranial sutures. This is especially true of the pars lambdoidea suturae labdoideae. The cranial vault is thin, due predominantly to the severe decomposition of the tabula interna resulting from increased brain pressure. There also occurs a strong distention of the hypophyseal fossa. All this, together with the spongy consistency of the skeleton and the impression of violent growth at the time of death, suggests changes originating in the hypophysis, probably hydrocephaly (fig. Pl. 23) cf. fig. p. C 51.

Grave 131.

Changes are apparent here in the cranium and the left radius and ulna.

The right os tympani (fig. Pl. 23) exhibits severe exostoses; those on the left side are conspicuous, those on the right fill almost the whole of the meatus. In the left radius and ulna (c. 3 cm from the processus styloides) are clear traces of the sequelae of an irregularly healed fracture.

Grave 134.

In the lumbar region strongly developed splondylosis deformans. The osteophytes are most pronounced laterally on L II, L III and L IV.

The pars lateralis cranialis of L II and III especially, but also L IV are severely affected (fig. Pl. 23).

Grave 135.

The vertebral column is porotic, the individual vertebrae brittle and light. Spondylosis deformans occurs moderately in both the thoracic and lumbar regions; L II is the most seriously affected of the lumbar vertebrae (fig. Pl. 23). The centre of the thoracic attack lies in the lowermost vertebrae.

Grave 138.

The two last thoracic vertebrae have fused together. The synostosis embraces not only the actual bodies of the vertebrae but also the processus articulares. In the region below these fused thoracic vertebrae changes appear in the bodies of the vertebrae almost resulting in scoliosis. In addition a pseudarthrosis in the right clavicle results from a fracture in the middle of its epiphysis (fig. Pl. 23).

Grave 140.

Throughout the whole vertebral column spondylosis deformans with osteophytes is present, and these reach considerable proportions in the lumbar regions. Thus a development of lateral exostoses can be detected, e.g. on L IV, embracing altogether almost as extensive an area as the original cartilage packing on the vertebral body (fig. Pl. 23).

Grave 146.

Degeneration changes occur here in particular in the lumbar region, but are less extensive than in grave 140. L III and L IV exhibit the most conspicuous osteophytes (fig. Pl. 23).

Grave 147a.

The whole columna vertebralis is affected, with abundant sequelae from ruptures and severe, widespread disc degeneration. The whole spine is also porotic, brittle and light. A number of changes of arthrosis deformans type are also noted in the epiphyses of both the limbs and the phalanges.

Grave 153.

Injury resulting from a blow on the forehead delivered obliquely from above and behind, slightly to the left of centre. A piece of the frontal bone, measuring c. 5.5 cm in length and 3.5 cm in breadth, has been dislodged, thus exposing the brain cavity. The skull fissure was only about 16×9 mm in extent at death (fig. Pl. 26).

Grave 156.

This man exhibits a rupture resulting probably from violent injury, causing severe compression of the body of the second lumbar vertebra and moderate arthrosis deformans on the side of L I and L II and also on L IV (fig. Pl. 24).

Grave 157b.

This individual, long before death, suffered injury to the right side of the head. Healed lesions are visible from a blow delivered obliquely from above and from the side, penetrating the margo supraorbitalis dex., and from another which struck the os parietalis dex. c. 6 cm directly above the meatus auditorius externus dex. (fig. Pl. 26).

Grave 158.

Spondylosis deformans in the spine, slight to moderate traces in the most inferior part of the lumbar region, more severe between L II and L III (fig. Pl. 24), also scoliosis caused by ruptures?, most conspicuous on the two last thoracic vertebrae.

Grave 159.

Spondylosis deformans throughout the lumbar spine and osseous bridges between the different vertebrae (fig. Pl. 24), also a coxa vara on the right femur resulting from a previous fracture of its collum (fig. Pl. 24), causing asymmetry in the pelvis, the right half being slightly underdeveloped. A callus formation? occurs on the inner face of the right tibia right in front of the foramen nutricium.

Grave 160.

Severe spondylosis deformans between L I and L II, L II and L III and L III and L IV. A callus-like bony layer of the size of an almond in the middle of the diaphysis of the right humerus, more exactly, on its dorsal surface (fig. Pl. 24). Healed wounds in the right temple.

Grave 162.

A distinct pathological change of the right hip bone, which has broken across (fig. Pl. 24), osteomyelitis? osteosarcoma?; slight disc degeneration changes in the lumbar spine.

Grave 164.

Rupture lesions in the thoracic spinal region (fig. Pl. 24).

Grave 165.

From the thoracic vertebral region to the sacrum severe spondylosis deformans and (in the thoracic region) amalgamation of several vertebrae, scoliosis and osseous bridging formations of the spondylitis tuberculosa type (fig. Pl. 24).

Grave 166a.

Arthrosis deformans has developed in the right caput femoris and right acetabulum, probably due to dislocation. The joints have not been able to articulate; the caput is deformed; this is also clearly visible in the acetabulum which has suffered degeneration (fig. Pl. 25).

Traces of a healed, tangential blow in the right os frontalis, c. 3 cm above the margo superior of the orbitalis.

Grave 167b.

Strongly pronounced changes producing bone disturbance (metastases) in: a) the right asterion region (cf. Christensen, Wilh.-Møller, Bogen om Abelholt kloster, p. 182—3, fig. 71, København 1958), where the wall of the skull has been eroded away from inside to cause a hole c. 1.5×2 cm in size; b) in the right hip bone, which has disintegrated to a considerable extent; and c) in the diaphysis of the right humerus which has decomposed from within, and on the inner face of the left femur in the popliteal plane (fig. Pl. 25).

Grave 169.

The 3—4 year-old infant exhibits rachitic changes in the crowns of 03, 04 and 05.

Grave 172.

This individual certainly died in battle. The following skeletal injuries have been observed on the cranium: a) a blow on the right parietal bone from directly behind; it commences in the pars asterica of the lambdoid suture and runs across half the parietal bone towards the central part of the sutura coronalis; it has shattered the whole of the right squama and must by itself have been fatal. b) a second blow from directly above and obliquely from behind has caused a trauma running almost parallel to the sutura sagittalis from the foramina parietalia to the pars bregmatica of the sutura coronalis. Both these blows were delivered with an edged weapon, probably a sabre or sword.

The long limb bones also exhibit a number of injuries from blows. These are: c) a cut c. 16 mm long in the left humerus immediately below the caput on the volar side, and another, d) striking the left femur laterally at the hip-joint and damaging the proximal epiphysis and damaging the distal epiphysis of the bone; while a third blow has shattered simultaneously the left tibia and fibula (fig. Pl. 26).

Grave 175.

This individual also died in battle. The following traumata appear on the cranium (fig. Pl. 26): a sword blow in the left side of the os parietale, running parallel to the sutura sagittalis, starting in the middle of the vertex and extending through the pars complicata suturae coronalis to a point about 15 mm into the os frontale; the blow was fatal. The injury was produced by a tangential slash striking the sutura sagittalis in the pars obelica and removing a portion of the tabula externa of the right parietal bone. The blow was aimed obliquely from behind and above. The following traumata occur on the rest of the skeleton: the left humerus exhibits two injuries from blows, one, at the elbow, came from obliquely behind and its effect can be seen on the volar side of the epicondylus ulnaris. There is another, smaller wound on the same bone, i.e. the left humerus, also on the volar side, which lies at roughly the level of the tuberositas deltoidea. An oblique blow from behind on the left tibia and fibula has split the upper part of the left fibula right below the capitulum and was stopped by the tibia c. 4 cm proximally from the foramen nutricium.

Grave 178.

The following traumata occur on the cranium: marks of two healed wounds on the medial axis of the frontal bone in the middle of the forehead and 1 cm in front of the bregma; the death of this individual was caused by a violent blow striking the right parietal region and forcing inwards an oval section of the cranial vault c. 7×4 cm in extent (fig. Pl. 26).

A healed fracture (Pott's fracture) occurs on the left fibula. Moderate spondylosis deformans in the lumbar spine (fig. Pl. 25).

Grave 181.

L V with loose dorsal portion. Slight disc degeneration changes within the lumbar region (fig. Pl. 25).

Grave 182.

L V with loose dorsal portion; the lumbar spine moderately affected by disc degeneration changes (fig. Pl. 25). Traces of a trauma resulting from a powerful blow roughly in the middle of the sutura metopica.

Grave 183.

A blow directed obliquely from behind from the right side has penetrated at the ear, shattered and detached the right superciliary arch (re-inserted when the cranium was reconstructed). The blow penetrated further in and struck the right side of the palate and also disturbed the right processus articularis manibulae and the right nasal bone (fig. Pl. 26, 27).

A second blow from behind has split the distal articular end of the right humerus and splintered the right ulna along much of its length. A third blow, directed obliquely from in front, shattered the right tibia and fibula.

To judge from the fracture surfaces from the blow to the cranium, this was delivered with a sharp cutting weapon, probably a sword (fig. Pl. 27). A fracture suffered and healed during life in the proximal part of the right femur has caused stunting of this bone (longitudinal difference r. — l. 27 mm, compensation: r. — l. humerus 11 mm).

Grave 195a.

The right lower leg struck just below the middle by a blow from the front, causing shattering of the right tibia and fibula. An incipient healing process could be observed in the surrounding area (fig. Pl. 27).

Grave 200a.

In the left os frontale adjacent to the sutura coronalis (pars complicata), a c. 2×2 cm large impression from a healed trauma, and in the left caput femoris an intravitally healed collum fracture (longitudinal difference r.—l. 21 mm) (fig. Pl. 25).

Grave 201.

Sacrum with incorporated L V.

This was taken into account when measuring; the tables of measurements include those with and without L V. Moderate lesions on the bodies of some vertebrae in the lumbar region and slight disc degeneration changes (fig. Pl. 25).

Grave 202.

Disc degeneration changes in the lumbar region, most conspicuous on the bodies of L II, L III, L IV and L V.

Grave 203.

Traces of a healed wound in the right supraorbital margin (right margo supraorbitalis).

Grave 205c.

As stated in the description of the material, this individual is thought to have died at a great age. Severe disc degeneration changes and atrophies as well as a multitude of ruptures on the spinal column. The bone material brittle and highly porotic (fig. Pl. 25).

Grave 211.

Traces of a healed trauma in the right temporal region of the cranium, comprising a depressed area c. 3×2 cm in size in the wall of the skull (fig. Pl. 27). Moderate changes of a disc degeneration type in both the lumbar and thoracic vertebrae.

Grave 213.

Disc degeneration changes of moderate extent in the lumbar region. L V completely sacralised and incorporated with the sacrum.

Grave 225.

Moderate disc degeneration changes in the thoracic vertebrae.

Grave 226.

Spondylosis deformans to a small extent in the lumbar vertebrae. The articulating capita of the humeri with slight arthrosis deformans.

Grave 227.

Almost the whole of the lumbar vertebral region shows disc degeneration moderately developed. This also occurs in the thoracic region where the changes are more extensive and accompanied by rupture sequestra.

"Mj".

See Appendix p. 132 ff. and Plates 25 and 27.

PART TWO

CHAPTER IX

The finds

Only a few of the objects recovered at Västerhus enable a date to be given to individual graves or grave complexes, and these datings provide only a modest indication of the chronological limits of the period during which the churchyard was in use. The majority of the finds consist of comparatively undatable types such as bone awls and knives, and coffin- and horseshoe nails; others again are of more recent date, e.g. the breech-knob for a cannon — Pl. 30 —, a tong for casting bullets (Pl. 30) and several fragments of iron found near the surface.

The finds have been placed in the collections of the Medieval Department of the National Museum of Antiquities, Cat. No. 25029, and the list appended to this chapter was drawn up in 1954 by fil. dr. Aron Andersson and docent Monica Rydbeck; the coins were dealt with by fil. lic. Lars Lagerqvist. The list of finds is reproduced almost unaltered, but the identifications of the coins have been interpolated into it and minor modifications have been made to the osteological finds.

Find no. 1 — Pl. 28 — a lead [analysed] sign of St. Martin of Tours, dated by Monica Rydbeck to the latter half of the 13th or the 14th century[1], was discovered together with a pilgrim's scallop shell (Pecten sp.), find no. 3 — Pl. 29, in the man's grave no. 200a (cf. the folding plan), situated in the outer part of the churchyard c. 5 m S of the SW corner of the nave.

Find no. 2 — Pl. 29 — consists of a pilgrim's scallop of the same kind as no. 3. It lay in the woman's grave no. 56 due N of the N wall of the choir.

Find no. 4 — Pl. 29 — is a bronze buckle bearing a radiate design and punched circles; it belongs to the woman's grave no. 65, 5 m due N of the NE corner of the choir. It represents a type fairly commonly known from the early medieval period, a similar specimen being recorded, for example, from the hospital at Åhus[2] with the same kind of radiate pattern but without the punched circles, and another, simpler example is illustrated from Skallakot in Iceland. According to Monica Rydbeck, these date from the 13th century, probably its end.

A rather earlier dating is assigned to find no. 41, the unique Rex Upsalie coin, a silver bracteate — Pl. 29 — of hitherto unknown type, which Rasmusson (1952) attributes to the mid-13th century.[3] For reasons of excavation technique, however, it was unfortunately not possible to ascer-

[1] Rydbeck, M., 1956, p. 283 ff.

[2] I am indebted to docent M. Rydbeck for information about the occurrence of these buckles. I would cite the following other examples: Petersson, M., 1948, p. 223, fig. 18:7 and the publication Forntida Gårdar i Island, p. 70, fig. 31:15.

[3] Rasmusson, 1952, p. 283 ff.

tain definitely whether this coin belonged to the man's grave no. 194 or to 195; both are situated 2.5 m S of the W part of the nave wall and 2 m N of grave 200a, which of course contained the pilgrim's sign no. 1.

With the exception of find no. 2, the pilgrim's scallop from grave 56, which must necessarily be early because it was the lowest of a series of primary interments N of the choir, the objects so far considered have come from graves lying either peripherally or far out to the W, which would suggest that they are among the later or perhaps the final burials in the churchyard.

The objects described above are the only datable ones that could be assigned directly to a particular grave. Two other coins, both of which are datable, one a bracteate — Thordemann Gr. XXIII — and the other a two-sided coin — Thordemann Gr. XIX — came to light during the excavations by the W door and below the S door respectively (Pl. 29). The bracteate belongs to the period 1360—1500, the two-sided coin to 1340—50.[1, 2]

The expression "undatable" which was used above to describe e.g. the coffin nails from the graves, is perhaps not completely correct, though this has hitherto generally been considered the case. A study of these nails from the whole of the grave-field demonstrates that at least two distinct types and an intermediate form can be distinguished, the one wrought in a simple smithing technique and the other by a more advanced method. The "more primitive" form is characterised by a somewhat convex, asymmetrically-set head and uneven, rounded neck without any particularly sharp division between the head and neck; the shank of such nails is sometimes hammered to a rectangular section down towards the point. The more advanced form usually has a flat, sharply differentiated and predominantly square or rectangular head and a shank of more uniform thickness hammered to a rectangular section with more or less sharp edges extending right up under the head.

Unfortunately, as far as the author is aware, there is no extant literature on the subject of early medieval nails and their manufacture. Fil. lic. Rune Norberg of the National Museum of Antiquities, who was kind enough to examine the nails from the Västerhus churchyard without any knowledge of the situation of the various graves from which they derived, but with his own wide experience of a large number of such finds from excavations at the ruined monastery of Alvastra in Östergötland (SE Sweden), drew up the typological sequence of "early" and "later" forms that we have experimentally established above. The boundary between these two forms is set by Norberg at the 14th century. On the basis of Norberg's suggestions, the author subsequently went through the Västerhus finds and formulated the characteristics given above.

Coffin nails were found in 17 graves. The pattern of their distribution throughout the grave-field on the basis of their division into "early" and "later" types is interesting. Nine of these graves are situated immediately S of the S walls of the choir and nave and S of the tower (111, 112, 116, 118, 153, 171, 182, 213, 217), while two lie slightly further away from the S wall of the nave (157a,b), two underneath the W end-wall of the nave (205, 208), one inside the nave of the church (5), one in the tower (1), one immediately N of the N wall of the tower (17) and one further out to NNW of the tower (8). Apart from individuals nos. 112, 118 and 217, who are children, and nos. 8 and 11, who are women, all the remaining 12 coffins that produced nails are those of men. Their positioning below the eavesdrip under the south wall, and one

[1] Thordeman, 1936, pp. 35 f. and 32 f.

[2] Lagerqvist and Nathorst-Böös, 1960, p. 63 ff.

within the church itself, suggests that at a certain period only the men were provided with nailed coffins. The typological classification described above has entered into this reasoning.

A study of the folding plan and the types of nails demonstrates that the following interments, reading from E to W, yielded nails of the "early" type: nos. 111, 112, 116, 118; 153;5; 182, 205, 213 and 1. In graves nos. 157a—b and 208 the nails were of an intermediate form between the simpler and more advanced types; the remainder, graves nos. 199, 17, 217 and 8, yielded only examples of the "later" form.

Such a division is of interest, among other reasons, for the fact that graves 205 and 1, and perhaps no. 5 as well, probably belonged to an early phase of the churchyard before the church extended as far to the W as at present. No. 1 might have come to be situated in the middle of the later tower accidentally and no. 205, of course, lies actually underneath the gable-wall. We should also note, concerning no. 1, that its cranium displays extensive similarities both morphologically and in respect of specific peculiarities to both no. 5 (priest?), inside the church, and no. 153, close up against the SE corner of the nave. The most probable explanation is that there were social factors that determined the placing of no. 1 in the tower space to give her a plot equal in eminence to that of her kinsmen, nos. 5 and 153. We will not, however, develop this further here.

Elsewhere, too, we will draw comparisons between the conclusions that arise from the written sources that are relevant to Västerhus and those reached here from the material finds. This, at least, may already be said, however: that, if we base our interpretation on the latter evidence, the life of the church could be brought forward into the 16th century and its upper chronological limit taken back to the 13th, but if we are to argue solely from the evidence of the finds recovered from the burials, then the period is restricted to the 13th and 14th centuries.

Some evidence for the lower limit, however, can be obtained from a documentary reference to the chapel in Diplomatarium Norvegicum; this will be examined further in chap. X.

LIST OF THE FINDS

1. *Pilgrim's sign.* Lead. Ht. 3.9 cm; br. c. 4 cm; ht. of the upper crest c. 1 cm; thickness c. 1 mm. A square figured field is enclosed by a majuscule text c. 4 mm wide in relief within narrow, raised borders. A rider on a slender horse trotting to l. turns in the saddle with bare head seen in profile facing r., lifting a fold of his mantle in his r. hand and slashing it with a blow from his sword; to r. a beggar naked from the waist up, with upturned face, runs after the horse with long strides and outstretched hands; the beggar's leading leg is crossed by the near hind leg of the horse. The representation is reversed; the mould in which it was cast was the right way round(!). The text, only partly legible, is also reversed; it reads, moving to l. from the upper r. corner:

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The complete text probably read: Sancte Martin, ora pro nobis. The square field is surmounted by three small triangular turrets, the two outer ones containing a pair of inner borders in relief parallel with the outer contours, the central one with three diagonal rows of raised dots parallel with the r. outer contour, its base being slightly wider than the flanking turrets. The reverse face undecorated. The tips of the turrets missing; a couple of breaks; edges jagged; text and picture damaged in some places by wear and in others by secondary accretions.

Found in grave 161 (new numbering=no. 200a) lying to S of the W part of the church ruins; the scallop no. 3 derives from the same grave.

2. *Pilmgrim's scallop.* L. 6.1 cm. Two holes pierced through the foot for suspension.
From grave 76 (=new no. 56; woman's grave N of the church).

3. *Pilgrim's scallop.* L. 7 cm. Two holes pierced for suspension.
From grave 161 (=new no. 200a; man's grave S of the W part of the church).

4a. *Buckle.* Bronze. Diam. c. 2.9 cm. Flat annular loop (br. c. 4 mm), rather over half the circumference quite flat with radiate design on sunken field covered with small round dots, the remainder with facetted edges and a row of punched circles. The tongue plano-convex in section.
b. Circular *piece of leather with hole,* found under the buckle. Diam. c. 2.5 cm.
From grave 93 (=new no. 65; woman's grave N of the church).

5. *Ring* of bronze. Diam. 2.4 cm. Th. 0.4 cm.
Found in northern part of foundation of E wall of the nave.

6. *Awl* of bone. L. 4 cm.
Found in north wall of the choir.

7. *Awl* of elk bone. L. 8.5 cm.
From grave 23 (=new no. 90; woman with pathological changes).

8. *Pig tusk.* L. 8.8 cm. A hole pierced at one end.
Found NW of the tower.

9. *Awl* of bone. L. 8.5 cm.
Found N of the tower.

10. Iron objects. — *Tong-like tool* for bullet-casting. L. c. 17 cm. Diam. of the actual mould c. 14 mm. (Pl. 30) — 1 long and 6 shorter *nails,* 3 *horseshoe nails.* — Figure 8-shaped *fitting* (part of a bridle-bit?). L. 4.6 cm. (Pl. 30) — *Ring* (buckle loop?). Diam. 2.4 cm. 2 fragments of decorative *iron mountings,* one *half-palmette,* l. 5.8 cm, one cross-looped stem with pointed leaf with rivet-hole in the centre (box mount), l.7 cm. (Pl. 30) — Fragment of leaf-shaped *pendant,* the lower tip with round boss in the centre. — *Door-hinge,* l. 5.5 cm. — 20 indeterminate *iron fragments.* — 2 *pig tusks.*
Found inside the nave at a depth of 1.7—2 m.

11. Iron objects. — 3 *nails,* 2 *iron fragments,* one part of a spur?.
Found inside the nave at a depth of 2.5 m.

12. Iron objects. — *Tang,* l. 9.5 cm. — *Ring* with free ends (fragment of chain mail), diam. 1.4 cm.
Found in foundation wall of the nave.

13. *Nail.* L. 1.6 cm.
From the foundation filling (S part of the W wall of the nave under the plinth).

14. *Nails,* 1 whole and 2 fragments.
From the coffin underneath the S wall of the nave (probably grave no. 120,=new no. 153).

15. *Bronze fragments,* 3, one forked with two curved pieces of rod of square section (N.B. of silver. Fragments of an ornament?) L. 2.3 cm.
Found in the tower at a depth of 2.2—2.3 m.

16. 11 *nails.*
From coffin no. 2 (=new no. 1; inside the tower).

17. 7 *nails.*
Found during sieving soil from a level below graves nos. 9 (=new no. 116) and 16 (=new no. 118) and above nos. 86 (=new no. 111) and 95 (=new no. 112).

18. *Knife* of iron. L. 11.5 cm.
From grave no. 54 or 55 (=new nos. 105 or 106; SE of the apse; women's graves).

19. *Buckle* of iron with counter-plate. L. 5.5 cm; the loop 3 cm high.
From grave 106; woman's grave. (Pl. 29).

20. *Iron mounting,* ribbon-shaped with a nail at either end. L. 10.7 cm. Br. 1.6 cm. (Pl. 30) — 16 *nails.* — 2 *rivets* with flat, quadrilateral heads.
From coffin no. 60 (=new no. 5; man's grave in the nave).

21. 2 *nail fragments.*
From grave no. 72 (=new no. 4; man's grave in the nave).
22. *Brooch* of brass, rococo. 5×3.9 cm. Only the curved frame with rocaille moulding survives.
From the surface layer S of grave 84 (=new no. 144).
23. 4 *nails.* — Grave no. 95 (=new no. 112; child's grave).
24. 8 *nails* and one broken, flat *iron rod* tapering towards one end, l. 9 cm.
From the group of bones no. 110.
25. 3 *nails.* — Grave no. 115 (=new no. 217).
26. 17 *nails.* — From coffin no. 120 (=new no. 153).
27. 7 *nails.* — From coffin no. 129 (=new no. 182).
28. 8 *nails.* — From coffin no. 146 (=new no. 171).
29. *Sheath-mount* of iron and a bent-up *clasp* of sheet metal, l. 6.2 cm. — 19 *nails.* — Grave no. 161a (=new no. 199; child's grave).
30. *Nail fragment.* — Grave no. 174 (=new no. 16; child's grave).
31. 3 *nails,* 6 *horseshoe nails.* — From coffin no. 175 (=new no. 17).
32. *Knife.* L. 15.5 cm. — NE of grave no. 178 (=new no. 11).
33. 2 *nails.* — Grave no. 194 (=new no. 8).
34. 16 *nails.* — From coffin no. 203 (=new no. 213).
35. 11 *nails.* — From coffin no. 209 (=new no. 208).
36. 4 *nails* from the foot-board of the coffin no. 211 in the top layer. — 2 *nails* from the head-board of the same coffin at a depth of 2.41 m. — Coffin no. 211 (=new no. 205).
37. *Iron fragment.* — From grave no. 213 (=new no. 206).
38. 2 wrought *nails,* l. c. 20 cm. — Oval *link* of iron, pinched up at one end, l. 8.4 cm. — 2 *nails,* l. c. 10 cm. — 2 *lumps of slag.* — Found in the surface layer close to the church.
39. "*Button*" (*breech-knob*) *of a cannon?,* fragment. Ht. c. 13.3 cm. (Pl. 30).
40—42. In addition, 1 *bracteate* from the W door of the church, 1 *ditto* from grave no. 199 (=new no. 194 or 195; men's graves), and a *coin* and a *bracteate* found underneath the south door. (cf. supplement in K. Myntkabinettet's Catalogue).
43—44. 2 *pieces of bone,* fragments of awls (?). L. 5.5 and 3.9 cm.
From E of the ruins and inside the tower respectively.
45. *Fish vertebra,* small, circular, with central hole drilled upwards. Diam. 1.3 cm. — From the tower.

These finds were recovered from the churchyard surrounding the Västerhus chapel ruins in the summer of 1951; acquired by the Medieval Department in 1954.
(Aron Andersson and Monica Rydbeck, Nov., 1954).

CHAPTER X

On some of the more important sources for the interpretation of the results of the anthropological investigation

One of the procedures that has become increasingly popular in recent years for the solution of problems demanding the collaboration of experts in a number of different fields is the symposium. A typical example of this fruitful type of cooperative effort is "A Ciba Foundation Symposium in Medical Biology and Etruscan Origins", the fiftieth such enterprise sponsored by Ciba (1959), involving on this occasion the specialist contributions of experts in such widely differing fields as classical archaeology and philology, history, anthropology, medical genetics, blood-group studies, biochemistry, pathology, immunology, etc. Cooperation on this scale can hardly be achieved unless the problems involved are of national or international interest, but there can be little doubt of its desirability in many other instances.

The skeletal material from Västerhus demands excursions into a multiplicity of different fields of Natural History and Social Studies which cannot possibly be compassed by a single individual, and not least the search for and investigation of such written sources and oral traditions as are relevant to the anthropological study. A comprehensive examination of the rich documentary evidence that could contribute materially to the solution of the problems raised by the anthropological investigation would indeed demand major contributions from specialists in medieval history, philology, etc. The following survey must therefore be taken only as a preliminary attempt to point the way along one or two lines of research which the author hopes to be able to develop more intensively on a future occasion.

The subject of *north-side burials* has been discussed in several works, including Ahnlund's (1928) informative and well-written little book "Svensk sägen och hävd" (Swedish Traditions and Customs) where, in the chapter "Norr om Kyrkan" he gives a valuable summary of the literature available to the date of publication. Some of the facts recorded there about burial rite are relevant to conditions at Västerhus, and these are at the same time shown to be exceptions to the normal medieval rule. Ahnlund states, inter alia, that the north side had a universally bad reputation throughout the Middle Ages, except at the very beginning.[1] He discovered only a single exception, "which is probably only an apparent one": that the burial ground in Näs parish (Jämtland) was moved in 1663 from the N to the S side of the church in connection with the erection of a bell-tower. He also stresses the fact that two distinct practices were followed in

[1] Ahnlund, 1928, p. 115. Cf. also Wilskman (1781) pp. 48—53 for more recent times.

regard to the grouping of grave plots, one orientated to the west and the other to the east. He gives details of these, citing examples, e.g. Longs cemetery in Västergötland (SW Sweden) where the number of graves decreases and the social status of the dead simultaneously declines from W to E.[1] He also shows "that the great majority of Swedish churchyards were not originally occupied on the W side, i.e. towards the setting sun".

Exactly opposite conditions will be described below, with the most eminent graves in the E and the poorer ones to the W and the dead facing towards the sunrise. We should also note in the Norwegian Borgarthings-Law (cf. also p. 121) and its injunctions concerning the allotment of church land in the E and S, that the best graves were those that lay under the eavesdrip of the church.[2, 3] After underlining the fact that there is no mention of the N and W points of the compass, Ahnlund gives examples of churchyards orientated to the E, and gives it as his opinion that no hard and fast geographical frontier can be drawn between these two opposite practices and that "purely fortuitous factors — soil type, etc. — played their part".[4]

In order to throw further light on this problem from examples of more recent date, and because this seems the right chapter in which to refer to surviving oral traditions, we have collated the relevant records from the collections of Landsmålsarkivet i Uppsala (The Uppsala Institute for Philology and Folklore). They are arranged alphabetically by provinces and are given in note form. The first of these references, Landsmålsarkivet Acc. No. 12081, in which we find a parallel to the above-mentioned record of Ahnlund's for Näs parish, is extrapolated from its context and quoted in extenso; some of the others are slightly abbreviated.[5]

[1] Ahnlund, 1928, p. 117.
[2] Ibid. p. 118.
[3] Cf. Hagberg, 1937, p. 491.
[4] Ahnlund, 1928, p. 119.

[5] I am indebted to professor Dag Strömbäck, Director of the Institute, who has kindly placed these records at my disposal; *Records of oral traditions relating to the use of different parts of the churchyard as places of burial.*

Boda parish, Dalarna: "No particular part of the churchyard has been considered more distinguished than any other".

Solleròn: Dalarna: "there is no special name for that part of the churchyard that lies 'north of the church'. There were no graves there until recent times".

Råggård in Dalsland: there is a record that "the church would fall onto the north part of the churchyard at Doomsday, so that the most eminent graves were as a rule not there but in the southern part".

From Hellvi on Gotland: "In my youth they buried in front of the church (southern part); every farm had its plot but there was an old stone fence running like this across the churchyard, behind it (eastern side) was the pauper's graveyard, it was a little worse, so to speak ... On the north there were no graves". "North of the church has not been used as a place for peasants' graves since olden times in the parishes of Gotland". ... "Several churchyards are *nowadays* used for burials even north of the church. With no graves still to the north, I remember (the informant was J. Hellström, born 1849 in Hellvi) *Endre, Viklau, Gerum, Vesterhejde, Bunge*".

From Valbo and Hedesunda in Gästrikland: "there is a story from Ockelbo that once upon a time the Finns who lived up in the forest regions were so ill-thought of by the rest of the people that they were refused permission to bury their dead in the churchyard at Ockelbo, but must bury them instead in a separate burial ground up in the forest. In Hedesunda, as in Valbo, there was a separate burial space in the north-west corner of the churchyard, but as late as the middle of the 19th century suicides were not permitted burial in the churchyard at all".

In Hälsingland, Arbrå: "The space to the north of the church used to be called the suicide place. In the old days suicides used to lie north of the church. The main thing was to avoid being buried on the north side of the church".

In Härjedal, Lillhärdal it is also told how suicides had to be lifted over the church wall at night and had to be buried north of the vestry wall, for it was a shameful place there, and it was always shameful to lie north of the church.

Norrbotten, Nederluleå: "'Behind the church' was the name given to the place north of the church where criminals and those who had 'done away with themselves' (suicides) were buried in silence without bells".

Småland, Dalhem: "In the churchyard there was a class distinction between the grave plots. The rich used to buy burial space or family graves ... All the graves lay east and west".

Småland, Döderhult: "There was no direct class distinction in the churchyard at Döderhult ... But it would seem that the eastern

"On Norderö", (also in Jämtland): "as far as we know, the churchyard originally surrounded the church no less on the north side than on the south. In about 1840 the community was granted land by the rectory for an extension of the churchyard to the south and gave up the northern part of the churchyard in exchange. In the old days a dead Norderö man might perhaps have been buried in that part of the churchyard that roughly corresponded with the part of the village he had occupied during his lifetime" (cf. Pl. 33 for the partition of the churchyard into quarters — fjärdingar. *Author's note*). "One man, now dead, who was born on Verkö, said several years ago that he had heard that the Verkö folk (those who live furthest out to the west) were buried in former times closest to the churchyard wall in the west. Certainly no one part of the churchyard was superior to another".

Records from other parts of the country point, in most instances, to the north side being the one that was shunned and feared; it was there, at least during the last few centuries, that only such categories of the dead as felons and suicides should be buried. Ahnlund also thinks that hundreds of examples of the same thing could be cited from literary and folklore sources.

But he is also of opinion[1] that the early medieval Norse church entertained no such objection

part was most used by persons of standing". (In other places in Småland the north side used to be considered as a pauper-graveyard as well as the resting-place of suicides and felons).

Småland, Skede parish: There are stories here also of suicides and how they were dealt with, and if a person drowned when skating, that too was considered a form of suicide. Such a person was not wrapped in a shround either, but was placed in the coffin in his ordinary clothes. And in Skede, too, it was in the north-west corner of the churchyard that all the suicides were buried. That place was commonly known as the 'bone grave'.

Småland, Misterhult: There is a report here that no ceremony at all attended the burial of suicides, felons, hangmen and rogues.

Södermanland, Vingåker: "Formerly noone would purchase a plot north of the church, but when Norstedts in Sundå built their tomb right at the north, then people began to buy plots all the way out to Norstedts grave; before, the plots against the church on the right as you went up the church hill were only for poorer folk, but to the right it was only the better folk who had bought graves; in the 1840's burials there were general; to the left noone would buy a plot".

Uppland, Bälinge: "Suicides were formerly buried outside the churchyard wall on the north side".

Värmland, Östmark: "Those who formerly took their own life were buried on the north side of the church".

Västerbotten, Skellefteå: "A peasant found guilty of buggery was executed for his crime and buried in the felon's corner (where suicides and murderers were buried)".

Västergötland, Nykyrka: "They would bury suicides on the north side of the church. There they also buried such as died of plagues and cholera, and women who died in childbirth".

Västergötland, Gökhem: "The northern corner of the churchyard was called the 'north corner'. When suicides began to be buried in the churchyard they had their graves there".

Västergötland, Korsberga: "In Suntak parish ... each farm had its separate burial plot, 'greftaplan' as it was called".

Västergötland, Korsberga: "In earlier days it was customary for the folk who lived north of the church 'norbönnera' to have their grave plots in the northern portion of the churchyard and the 'sörbönnera' (south farmers) in the southern portion ...". 'Greftaplan' is also mentioned.

Västmanland, Kumla parish: "The north corner of the churchyard was the place for suicides".

Västmanland, Jämbods: "In the churchyard all the rich lie to the south and the poor to the north".

Öland, Ventlinge: "The south side of the church was the most eminent place up till 1869, then the north side also became respectable ... Formerly, some 100, 150 years ago, the north side belonged only to felons, executed for serious crimes, suicides and the like".

Öland, Ventlinge: "the dead were buried almost without exception on the south side of the church, the north side of the church was considered less respectable to be buried in; it was kept for criminals and their like of all kinds; here in Ventlinge the north side did not become popular for folk to use before 1869".

Östergötland, Asby-Torpa: "See, those there suicides they always had to lie north of the church".

Östergötland, V. Harg and Ulrika: "In the north-west corner of the old churchyard next to the north wall of the churchyard the suicides were buried".

Östergötland, Hällestad: "In recent years the self-murderers came to be buried in the churchyard but in a separate part, which in Hällestad was to the left as you come in in the far corner".

[1] Ahnlund, 1928, p. 127.

to placing burials on the N side. He quotes as examples a number of Gotlandic churchyards as well as burials round Roskilde and Skara cathedrals, at the old church at Bjälbo, Östergötland (SE Sweden), etc.

The same view is expressed by E. Lundberg (1941)[1] but O. Rydbeck (1942) offers a quite different interpretation. Rydbeck had collected evidence about north-side burial from both his own excavations and literary sources. We cannot summarise this major work in detail here, but will merely recall that this author, from his exhaustive study of a large number of examples, offers a choice of five possible explanations for the appearance of north-side burials during the Middle Ages[2]:

I. that in the earliest Christian Norse community it really was customary to bury N of the church;

II. that north burials belong to an earlier church (of timber);

III. that the graves are those of such as were relegated there on account of felony, suicide, murder, etc.

IV. that the situation of the graves results from pressure of population or perhaps because they belong to a monastic foundation;

V. that the graves belong to a Viking Age cemetery or a graveyard consecrated by the bishop long before a church was erected on the site.

Rydbeck considers the first of these explanations improbable, and it is here that his view clashes with that of Lundberg.

A quick glance at the plan (folding plan) of the Västerhus cemetery in the light of the evidence just quoted provides the following guide to our choice between Rydbeck's five possible explanations:

The graveyard represents a consistent, 'organically' growing unit with a distinct easterly orientation. The air photograph (Pl. 3, cf. also chap. I, p. 18), the absence of graves in the area N of the N wall of the nave, the deviation of the foundation of the choir wall from a N—S line, the deviation from an E—W line of the women's graves to N of the choir and the E side of the nave, not forgetting also the occurrence of graves below the SW corner of the S wall of the nave; all these indications suggest the existence of an earlier church on the site, smaller than the latest structure and orientated several degrees further in a clockwise direction (cf. chapter XI, p. 126). The north-side women's graves must have lain even closer to this earlier church. Thus far the plan favours alternatives I and II, but probably with the earlier church within and not, as Rydbeck suggests, outside the area covered by the later one.

If the third explanation were true, this would imply a rather unreasonable situation at Västerhus. It can hardly be possible that the class of outcasts on account of different crimes really comprised as many individuals as are in fact interred on the north side; indeed the morphological likenesses displayed by these individuals, with their strong suggestion of kinship (cf. chap. VII, p. 83), militate strongly against this. On the other hand, the possibility cannot entirely be excluded that the few males who lie N of the church may either have belonged to this category, in which case this would refer primarily to the man with a broken skull in grave 53, or have been buried

[1] Svenska Dagbladet 13.XII.1941, reference taken from Rydbeck's paper, 1942.

[2] Rydbeck, O., 1942, p. 224 ff.

during a period when strict segregation of the sexes was not observed. We are thinking here primarily of the man N of the tower and the women right out in the SW, who quite possibly belong to the later or final phase of the churchyard.

Explanation IV can presumably be completely eliminated in this context, and the same applies to V. The whole area admittedly abuts directly onto an Iron Age cemetery, and this might conceivably have been obliterated by the erection of the church and rectory, but it will be shown below that, at Västerhus at least, it is unlikely that any earlier churchyard antedates the first church on the site (cf. p. 120).

In the search for documentary evidence to help interpretation of what is undoubtedly an uncommon burial rite here, it must be remembered that although it seems in our present state of knowledge (Ahnlund, 1948)[1] that Jämtland was converted to Christianity from Sweden[2], it came under the political influence of Norway only a decade or two later, in about the year 1111 according to a frequently-quoted opinion.[3]

In the chapter III on the number of individuals buried in the churchyard area only passing reference was made to the estimated length of time during which it may have been used for burial purposes, which could serve as a guide to the "vital period" of the consecrated site, so to speak. The author, following Berthelson (1952), dates the establishment of the Christian Church in Jämtland to the middle of the 11th century at the earliest, but in order to calculate the estimated mean population we must also try to put a lower limit to the period of use of the churchyard, even if this be no more than pure hypothesis. The following sources may perhaps contain evidence of value in this connection.

Edv. Bull (1927)[4] lays considerable stress on the great importance of Frösö as the centre of the landscape and considers that Västerhus was probably one of the most important churches in the province Jämtland. He interprets it as a "högendis"-church[5] and suggests that the great lords of Västerhus were among the most eminent and richest in the whole province, and that their very occupation of the rich island at its centre gave them a high standing in popular opinion. (N.B. in this connection the unusually high values for individual and mean statures and their distribution in the churchyard. The evidence is summarised on p. 49, chap. IV.)

Bull goes on to refer to Norskt Diplomatarium XVIII,1,109, where the land belonging to Västerhus in 1300 was listed in the church missal. This document shows that the property did not increase during the long period between 1300 and 1481; "the annual revenue in 1481 was assessed at five Swedish marks". In actual fact this implies plain stagnation, as is shown quite clearly by the knowledge that the standard rate of exchange from Swedish marks (örtuger) to silver marks stood at 5:1 in 1311 and 11:1 in 1479.[6]

A reminder that Västerhus had long ceased to exist as a church and burial ground by the end of the 16th century is given by a letter sent on 7 Aug., 1578 from the Norwegian king,

[1] Ahnlund, 1948, del I, p. 116.

[2] Prof. Elias Wessen kindly informs me that runic studies, as they stand at present, make it fairly certain that Christianity came to Jämtland from Sweden.

[3] Ahnlund, 1948, p. 137.

[4] Bull, 1927, p. 97.

[5] A private church established by one or more of the local lords for their own convenience.

[6] According to a report kindly communicated by L. Lagerqvist of Kungl. Myntkabinettet.

Fredrik II, to Bishop Hans Gaas in Trondhjem in which the king orders him to build a school at "Vesterhus, which was earlier (formerly?) a chapel" /"tilforn vært et kapell"/.[1] The probable implication of this and the previous reference, which though not conclusive are nevertheless valid as indirect evidence, is that the consecrated ground of Västerhus progressively declined in importance for burial purposes with effect from the establishment of Frösö church at the beginning of the 13th century. That it came under the cathedral of Uppsala and for ecclesiastical purposes therefore fell within the province of the Swedish Church is confirmed, for example, by the parish divisions of Jämtland as recorded in documents dating from 1314 and 1316.[2] P. Ohlsson's study of parishes and parish names in the province of Jämtland, published in 1901[3], includes a list of the annexes to church parishes in the province. Västerhus should probably be added as an annexe to Frösö. There is no mention in the list of an annexe there, but Erasmus Ludvigsson's description in 1575 of the Thing-laws in Jämtland still states that "Vesterhus chapel lands comprise three farms which are subject to the Swedish Crown and once came under Uppsala Cathedral".[4]

Ahnlund and Bull hold slightly differing views about the date of the transference of Jämtland to Norway, and it is very difficult to get a clear picture of the exact sequence of events. On one point there appears to be complete agreement: that the province, both politically and ecclesiastically, enjoyed a privileged position involving a high degree of independence and self-determination, and that in church matters it was much more closely associated with Uppsala than with Nidaros. Jämtland had its own laws which were formulated under the influence of the early codes of both Norway and Sweden. It is therefore surprising to find that some of the details and peculiarities of the burial rites, the division of the churchyard, etc. that have come to light as a result of our investigation of the Västerhus skeletal material, can be linked with virtually every one of the ecclesiastical sections of the early Norwegian law codes and their different variants.

There is thus every reason for allowing the reader, by presenting a wide selection of textual excerpts, to acquaint himself with these early laws, which must have influenced many features of the burial rite practised at Västerhus.

The following summaries represent the substance of these excerpts; they have been taken from Vol. I of "Norges Gamle Love indtil 1387" covering the period from the earliest codifications down to the accession of King Magnus Haakonssön in 1263. The quotations are presented in the order in which they appear in the different variants of the early Gulathings-Law, the early Frostathings-Law, the early Borgarthings- or Vikens-Ecclesiastical Law, the early Eidsivathings-Law and King Sverre's Ecclesiastical Law.

The texts are given in Plates 31—37; their contents involve a considerable amount of repetition, i.e. the same sections appearing in several variants of the laws. Among those that may be directly relevant to the results of our anthropological investigation attention should be drawn to the order of burial of the various 'social classes' working outwards from the church walls in different directions. For reasons of space only those excerpts from the legal texts have been translated

[1] Samlinger til det Norske sprog og Historie, II, p. 289 f., ref. taken from Bull, 1927, pp. 132 and 200.

[2] Bull, p. 22.

[3] Olsson, 1901, cited in Bull op. cit., p. 23.

[4] Bull, p. 44.

that are considered necessary to explain the narrative. A study of the variants, reproduced in facsimile, will give the interested reader a closer insight into their style.

A. In the early Gulathings-Law, §§ 10, 11 and 12 we are introduced to the various stages in the establishment of a church and churchyard, how the community as a whole should cause them to be built and maintained, and the penalties laid down for failure in one respect or another, e.g. if the building should fall into disrepair. Only when the church and churchyard are prepared shall consecration take place by (be bought from) the bishop (Pl. 31).

Some of these texts are of ancient origin, i.e. older than the date of their incorporation into the Gulathings-Law. They are included in fragments of earlier date that have been added as a separate appendix to this Law.[1]

In section 12 there is further reference to the different kinds of church, fjärdings-, attungs-, härads- and högendis churches[2], and the maintenance of them and their churchyards. The following theme occurs repeatedly: "And if the church collapse and the corner posts fall down, timber must be brought to the site before twelve months have passed. If this be not done, a fine shall be paid to the bishop", etc. The conclusion to be drawn from this passage is that we are dealing with a period when the wooden church, stave-church, was the normal form. It would appear reasonable to infer from the procedure specified for the erection of the church and the establishment of the churchyard and the strict laws governing their maintenance, consecration, etc. that burials could hardly have taken place before the church was in being, nor presumably after it had ceased to be a living sanctified spot, unless some ritual modifications were authorised so as to permit 'after-burials'.

A little later in the text — § 23 — there is a detailed injunction, subsequently repeated in even greater detail, describing the procedure to be followed on the death of, and an enumeration of the categories of, those not entitled to burial in consecrated ground, how long the corpse might remain unburied, etc., and the penalties for failure to observe these injunctions in various respects (Pl. 32).

In variant II of the early Frostathings-Law, § 7, which deals with the erection of a fylkes-church[3], the sections cited above are repeated in somewhat simpler form but with an important difference in the present context: they tell how one should proceed when it is proposed to build a church in stone. There follow, as in the previous example, sections relating to the consecration of the holy ground and, later, a passage referring to the communal purchase of a church bell. Rules of procedure in the case of deaths, etc. follow later — § 15.

The early Borgarthings-Ecclesiastical Law contains a multitude of facts directly relevant to the oral traditions and to our material.

§ 8 repeats in detail the regulations governing the erection of a church, the obligations and exemptions associated with its and the churchyard's establishment and maintenance, all mainly in accordance with the previous excerpts from the ecclesiastical sections of the Gulathings- and Frostathings-laws (Pl. 33).

[1] Norges Gamle Love, I, 1846, preface p. IX.

[2] A fjärdings-church served a $\frac{1}{4}$-mile and an attungs-church an $\frac{1}{8}$-mile region of the medieval land division; a härad-church served the area controlled by a single lord and a högendis-church was a private church established by one or more lords for their own convenience.

[3] i.e. a church serving a 'fylke'=shire.

Paragraph 9 "concerning disrepair of the churchyard and on burial" prescribes first the consequences of dilapidation and then continues: "The churchyard is divided into quarters for burials." What follows is relevant to the results of our anthropological investigation and we therefore give it in translation: "Länder-men shall be buried east of the church and in the ground to the south under its eavesdrip. If they own no share in the churchyard, they shall lie in the peasant area ('bonda-legan'). Thereafter shall be buried the hölder-men and the hölder-men's children, and thereafter the freedmen and the freedmen's children. Next shall be buried freed slaves and their children[1]. Up against the churchyard shall be buried slaves and men who have been cast up on the sea shore and have their hair cut in the fashion of the Norseman" (Pl. 33).

These informative sections are followed by the usual penalties for contraventions of the letter of the law, illustrating vividly the strict class distinctions that must have obtained in the regions where the law held.

In variant II of the Borgarthings-Law, §§ 16, 17 and 18, we again find regulations governing church building, this time relating to the erection of fylkes-churches, the penalties if they should collapse, how the churchyard is divided up for burials, etc. § 20 of the same variant gives information on the price that had to be paid for burial space: "Twelve ells in fee for a ländermand and for his wife and all his children who are in the province. And 6 ells for a höld-born man," etc.

Variant III of the Borgarthings-Law, § 11, wherein incidentally Kongahälla in Bohuslän (now SW Sweden) is named as the first in precedence of the fylkes-churches, legislates as above, e.g. on the consequences of collapse of the fabric of a church; § 12 deals with the maintenance of a högendis-church, etc. and § 13 with the order of burials (Pl:s 33, 34).

The early Eidsivathings-Ecclesiastical Law, §§ 34—38, lays down regulations governing the rebuilding of a church after fire and § 48 prescribes the amount to be paid by each individual, depending on his social status, in ells (of homespun) for the purchase of a burial plot (Pl. 34).

The preamble to § 50 includes a recurrent section (e.g. of § 18 of the Borgarthings-Law) on the order of burial for the various social classes, ländir-men, hölder-men, freedmen, freed slaves and slaves, their wives and children. This is followed by a passage, directly relevant to circumstances at Västerhus, concerning the segregation of the graves according to sex: "Men shall lie south of, and women north of [the church]." After this penalties are laid down for digging up another's corpse and a prohibition follows against the burial inside the churchyard of certain categories of citizens (Pl. 35).

In § 31 of variant II of the Eidsivathings-Law we again find regulations governing the establishment of a churchyard, and § 32 contains instructions relating to the rebuilding of högendis-churches and punishments for failing to observe these. Ordinances concerning the purchase price of burial plots recur again in § 37, while § 39 consists mainly of a repetition of earlier

[1] A länder-man was the king's agent or deputy, a hölder-man one who by birth held a position below that of länder-man but above that of a free peasant. A freedman (frigiven, lösgiven) was a man who had confirmed and sealed his freedom from slavery by holding his 'frälse-öl' feast; until this had been done he was classed as a freed slave (frigiven träl).

regulations governing the arrangement of graves beginning: "Lender-men shall be buried closest to the church, and their wives and children," etc. Then follows the same theme as cited above with minor variations. One important difference from § 50 of variant I of the Law is that no mention is made of any segregation by sex, with men to the south and women to the north of the church (Pl:s 35, 36).

King Sverre's Ecclesiastical Law, which is in effect compiled from the Gulathings- and Frostathings- Ecclesiastical Laws, contains in § 9 a rough paraphrase of earlier injunctions about the erection and maintenance of church and churchyard, the purchase of bells, consecration, etc.; the same paragraphs is otherwise a repetition of the regulations governing the building of stone churches extracted from the Frostathings-Law (Pl. 37).

The remarkable thing about the burial rite at Västerhus from the point of view of anthropology and the history of religion is, of course, the north burial of women. A great deal of effort has therefore been expended on the search for parallels to this, with results that can only be described as meagre. Correspondence with specialists in Scandinavia, Germany, Eire and England[1] and verbal enquiries among Swedish scholars have yielded constantly negative results. Nothing like it has ever been seen before. On the other hand, there has been discussion on several occasions about the abundant evidence for a deep-rooted belief, apparently sometimes still held, that the north side was shunned as a place of burial. A further persistent question also arises: Is this fact in any way connected with the sex segregation of Västerhus type that is still practised today in churches in some country districts, where during the services the women have their places to the left of the centre aisle (to the north) and the men to right (south) looking towards the altar? And again, is there not some definite significance in this sex segregation, since at Västerhus the individuals were buried according to sex only after they had reached fourteen years of age (cf. chap. III, p. 44)?

As far as the author has been able to discover, there is no regulation in the ecclesiastical sections of any of the Swedish provincial laws about the burial of women on the north side of the church. Nor has any such record been traced in the Icelandic law codes — the "Grágás"[2], in which many long passages repeat almost word for word the equivalent sections of the early Norwegian laws.

What has just been said does not, however, exclude the possibility that north burial of women was sometimes practised in other churchyards in early medieval times.[3] The explanation may

[1] Riksantikvarie N. Cleve in Helsingfors, architects G. Fischer and H. Christie in Oslo, Dr. J. Trevor in Cambridge, professors J. H. Delargy, D. A. Binchy and C. O. Danachair, professor J. Ryan Dublin, M. Dolley, M.A. British Museum, London, and professor M. Kamphausen from Holstein have generously answered my queries on this point, and professor J. Torgersen of Oslo has informed me verbally that he knows of no similar instance among the skeletal material from Norway.

[2] Finsen, 1870, translation of Grágás.

[3] Of the different information that have come from the above mentioned professors in Eire there is one exception from the rule of non-segregation of the sexes in the churchyard cited below which, however, seem to be connected with monastic prescriptions:

On page 189 of the 1956 *Automobile Association Road Book of Ireland* occurs a description of Inishmurrary which runs as follows:— "The cashel enclosure contains three small churches, *Teach Molaise* (molaise's House), 9 feet by 8 feet, *Teampull na bh Fear* (The Men's Church), 25½ feet, now used as burial place for men, and *Teach na Teineadh* (The Fire House), probably dating from the 14th century, with its miraculous hearth from which fires were kindled. Also within the cashel are three beehive cells, constructed in an oval shape of very large stones, and three altars. Outside the cashel, to the north-west, is the *Teampull na mBan* (The Women's Church), which is used as a burial place for women. The islanders believe that if a man is buried in the women's place the corpse will be transferred during the night by unseen hands to the men's place, and that a woman's corpse buried in the men's place will be similarly transferred."

indeed be as simple as this, for perhaps no sex determinations have hitherto been carried out on whatever skeletal material may have been excavated from the north side of early medieval church ruins. It is probable that such material does indeed exist, possibly from St. Clement's Church in Oslo[1] for example, but no record of segregation by sex is to be found in the literature on these sites.

We are therefore inclined to place all the more reliance on the conclusions reached by Steffensen (1943)[2] from his investigation of 66 burials from a small church at Skeljastaðir in Þjórsárdalur, Iceland, from the period 1100–1300, i.e. the beginning of the Christian period in that country. The sex could be established for 55 of them, 27 male and 28 female. With only two exceptions the individuals buried north of the church were women and children and, again with only two exceptions, those to the east of the choir were men, while the interments on the south side showed a fairly equal division between the sexes. The crania of the adult individuals have been compared with those of Västerhus in respect of their main measurements and indices (cf. chap. V, p. 57). The only differences in measurements between the men concern the anterior forehead width and the height of the eye sockets, and between the women in the skull height alone, while the indices showed statistically confirmed differences only as regards the transv. fronto-parietal. The differences in standard deviation were also low, especially for the indices.

Professor John Ryan of Dublin has kindly answered my question in the following way: The Irish Canon Law (Wasserschleben: Die irische Kanonensammlung, Cap. XVIII) does not prescribe the segregation of the sexes in death, but rather the contrary. Ancient authorities, Eusebius of Caesarea, Augustine, Eucherius of Lyon, are quoted in support of this view. To judge from the lives of the Irish saints and similar evidence non-segregation seems also to have been the general practice.

Professor Ryan goes on by showing from where the above mentioned reference of the 1956 Automobile Road Book must come:

"There are, however, traces of exception to the rule. The following quotation will interest you. It is from a book by the antiquarian, W. F. Wakeman, on Inis Muiredhaigh, Inismurray, an island off the western coast, published in London in 1893. "It is a remarkable fact that in the extensive cemetery which surrounds this so-called 'Church of the Men' (Teampull na bhFear) no woman is permitted to be interred. The burial-ground for females is at Teampull na mBan, the women's church, situated some distance outside the cashel (the stone wall surrounding the monastery proper). It is universally believed by the islanders that if a woman be buried in the men's ground the corpse will be removed during the night by unseen hands to the woman's cemetery and *vice versa*." Page 50.

Wakeman quotes a similar arrangement from the Island of Bute in the Scottish Hebrides. "Descend to ruins in old Kingarth church; two cemeteries belong to it, a higher and a lower: the last was allotted to the interment of females alone (because in old times certain women being employed to carry a quantity of holy earth brought from Rome lost some by the way and so incurred this penalty for their negligence, that of being buried separate from the other sex)." The excuse need not be taken too seriously.

A book by M. Martin entitled "A Description of the Western Isles of Scotland" published in 1716, page 49, has this to say of the isle of Taransay: "There is an ancient tradition among the natives here that a man must not be buried in St Tarran's nor a woman in St Keith's (the two chapels on the island), because otherwise the corpse would be found overground the day after it was interred."

A similar reference, applied to Tory Island, off the coast of Donegal, is given in Manus O Donnell's Life of St. Colmcille. (Zeit. f. Celtische Philologie, V.28).

You will remember that in a monastic cemetery only the monks would be buried, all males; and in a convent cemetery only the nuns, all females. The number of such exclusive cemeteries in ancient Ireland would be great. From these the idea may be derived.

Perhaps it is well to recall also the custom of segregating the sexes in church. In the parish church of my youth the men were all on the epistle side during Mass and other services and the women on the gospel side. Such is the custom still in the country churches, though not in the towns, where the two sexes mingle freely in the benches. Segregation in church is, I think, very ancient. One of the duties of deaconesses — abolished before the end of the Roman Empire — was to look after woman in church, a fact which suggests segregation even then.

Let me conclude by saying that I have never encountered any living tradition of segregation of the sexes in chruchyards; nor have I come across any other references save those given.

[1] Cf. e.g. Fischer, 1950, The plan of St. Clement's Church, p. 93.

[2] Steffensen, 1943, p. 227 ff.

Steffensen considers it not impossible that it was customary in Iceland, at least at the beginning of Christian times, to bury women and children N of the church and men in the more distinguished places on the east side, but that this practice was abandoned later.[1] The author has here interpolated the division of the sexes at Skeljastadir into Steffensen's plan (Pl. 38), a study of which reveals an undoubted resemblance to our material at Frösö. Two fairly compact clusters of graves can be identified, one of women to N and one of men to SE and E of the church. Variation occurs peripherally, one male lying in the extreme north, one woman in the outermost row on the E and mixed sexes both close up to and at some distance from the S wall. A knowledge of the division of the graves in the vertical plane might perhaps have brought this problem even nearer to solution. It is, of course, typical of medieval burials in general, that the graves are squeezed, as it were, up against the church and that the places closest to it were used first; it follows that the more peripheral graves in each group are probably later in date, although this is not always true. One of the interesting details about the Skeljastadir cemetery is the symmetry of its northern and southern halves, which indeed mirror one another almost exactly. It is the author's belief that this is no coincidence, but that it is due to a distinction in 'social' status from those interred peripherally in the "wings" of the churchyard; that those lying closest to the church belonged to the leading class, corresponding to the länder-men, and the peripheral ones to the servile class, the slaves.

The conclusions reached in the anthropological investigation as regards morphological correspondences between individuals buried in the same grave group or cluster of graves and similar likenesses between pairs of individuals lying roughly opposite one another to N and S of the church respectively, the segregation of the sexes (together with the evidence from Skeljastadir on Iceland from the same period), the easterly orientation of the Västerhus cemetery on the one hand and the content of the textual evidence of the ecclesiastical sections of the early Norwegian laws on the other; these are all facts that even the most critical of scholars could scarcely fail to interrelate.

The conlcusions to be drawn from a synthesis of the osteological analysis of the skeletal material and the literary sources cited above are very far-reaching. They provide irrefutable proof that the systematic study and registration of the morphological characters of a *known* skeletal material (and by this we mean one where the blood relationships between the different individuals are known) must produce important results of practical value, e.g. for criminology, paternity studies, etc. Similar results obtained indirectly from *unknown* material could then be used in the service of archaeology and social history.

[1] Ibid., p. 229.

CHAPTER XI

Brief comments upon the different constructional phases of the church building and its duration

In this final chapter we put forward a number of ideas concerning the various constructional phases of the church, suggested partly by the distribution of the graves over the area and the postulated growth of the groups of burials — in other words, by the actual use of the graveyard, and partly by the anthropological evidence, especially the results of the morphological investigations.

It should be clearly understood that these are nothing more than the impressions of a layman, to be accepted merely as the modest contribution of an anthropologist to the architectural history of a Romanesque church in a comparatively remote corner of this country.

First, we may give a brief resumé of the development of Västerhus church as presented by Berthelson (1952) in the only study of its history yet published:

"Shortly after the conversion of Jämtland to Christianity, a little stave-church was erected at the province's ancient centre of occupation and near to its gravefield. Burials in the Christian rite began to be placed round the new church, thus giving continuity with the function of this prehistoric gravefield. Later it was desired to replace the stave church with a stone building of the same plan, with its nave exactly enclosing the nave of the chapel. It was decided, at a very early stage, to make the choir apsidal, the inspiration for this more elaborate design having probably reached Jämtland, via Norway, from England."

On the "apse phase" of the church, Berthelson writes as follows: "The reason why the small stone church was never completed as planned is undoubtedly to be sought in the existing contacts with the Trøndelag and provincial churches there. These had no apse and the idea of adding one at Västerhus was therefore dropped. Instead, the choir was to have a straight end-wall as had originally been intended."[1]

The following passage is also important in relation to the discussion that follows: "Since the whole church — despite the fact that the foundations were laid in two stages — is really a single design, it could not have been erected before the graveyard had been in use for a considerable length of time."[2]

An examination of the distribution of graves in certain parts of the churchyard and the topographical relationship between the concentrations of burials and the excavated wall foundations

[1] Berthelson, 1952, p. 303. [2] Ibid., p. 302.

enables us to establish the following facts, as has already been shown in our description of the churchyard in chap. I (cf. the folding plan):

1. There is a triangular area, its base lying along the N wall of the nave and its apex roughly at grave 24, where no burials occur.

2. The air photo (Pl. 2) shows a distinct difference in soil colour between this grave-free area and the surrounding ground.

3. The bottom course of stones in the wall foundations of the choir, belonging to the "apse phase" of the church, are clearly visible on the ground plan and the air photo and have a different alignment from the choir wall of the final building period. The angle between these is the same as that mentioned above (point 2) between the N wall of the nave and the differently coloured soil seen on the air photo. The same is true also of the foundation course of the N wall of the choir in relation to its upper courses.

4. Another area, also empty of graves, lies to SE of the apse between graves 98 and 111. The interments in the corresponding position to the NE lie close in to the apse.

5. The graves hug the whole of the S wall of the nave very closely and also lie in under the W end of the nave and the tower.

6. The grave concentrations either thin out or disappear at points not exactly diametrically opposite one another on the N and S sides of the church; the gaps in the graves lie slightly further to the east on the N side.

The following are some of the conclusions that arise from the anthropological investigation:

a. The groups of graves include individuals with a closer genetic interrelationship than obtains between individuals buried wider apart.

b. As a result of the strict observance of the principle of burying adults according to their sex, the females to N and the males to S of the church, it has proved possible to demonstrate the presence of a large variety of morphological likenesses — indicative of kinship — between individuals to N and S of the ruins respectively. These comparisons have been made easier by the roughly equal division of the sexes, the females slightly outnumbering the males. Lines drawn on the ground plan between those individuals N and S of the church that show the closest morphological identity display in general a slight clookwise divergence from the N—S axis of the final building period of the church. This implies, among other things, that a large proportion of such burials belong to an early structural phase.

Points 1—6 may be summarised by saying that the church ruins give the impression of conforming better to the E half of the grave plan if they (excluding the tower, of course) are twisted clockwise about 10°. This would bring the apse into a more symmetrical relationship to the surrounding graves, and the N wall of the nave would fit in more naturally with the northern graves and its S wall with the southern ones.

There are, in our opinion, strong grounds for inferring the existence of an earlier church, orientated c. 10° further round in a clockwise direction and covering the part of the churchyard outlined in Pl. 39 on the basis of the air photo mentioned above (Pl. 3, bottom).

Graves nos. 94a to 99 on the E of the apse also follow a different alignment from the wall of the final structural period, lying instead parallel to the foundation course of the choir wall. Iwar Andersson has put forward the suggestion, as a possible answer to the problem of the earliest

church at Västerhus, that a stave church similar in dimensions and plan to that at Urnes[1] was originally erected on the site in the way indicated by the plan (Pl. 39).[2]

It would seem to conform better with the air photo, however, if the nave of this earlier phase were thought to be somewhat shorter, terminating roughly in line with grave 24. The question still remains: was this phase in fact represented by a stave church?

King Sverre's Ecclesiastical Law and the Early Frostathings Law both include an ordinance which makes it clear that stone churches were secondary to timber ones and this is widely known.. What is less well-known, however, is that the same paragraph contains a passage showing that the introduction of stone as a building material was clearly so great an innovation that special regulations had to be made to govern cases where it was proposed to build in stone instead of timber.[3] The preamble to this law states that it was codified at the beginning of the 14th century. On the assumption that Västerhus came under its jurisdiction and that we can accept the date of 1350 as the time when the church fell into a state of disrepair, we may reasonably infer that the penultimate building period was represented by a stave church. We must now return to Berthelson's statement that the whole of the church represents a single design.

Although what has been said above does not solve the problem of the never-completed apse foundation, such an hypothesis would satisfactorily explain the comparatively close conformity between those foundations and the long row of graves that runs outside them. It is difficult to believe that an apse, the foundation course of which had been marked out but never built up on, should have been allowed to deprive this part of the churchyard of so much space that burials over several years or even decades had to follow its line rather than it be removed. But if we suppose that it was preceded by a timber construction forming part of a stave church, many of the difficulties are removed.

Might it not be that the apse foundations are a monument to discord among the builders, or the first example of an attempt at a completely novel plan evolved in a milieu that must to a great extent have been influenced by the geographical situation of the province and its special ecclesiastical position in the early Middle Ages?

Apart, however, from such possible explanations as this last, which can hardly demand serious consideration by scientific minds, what sort of architectural sequence can be inferred from the facts at our disposal? The author, after discussion with experts in this field[4], has decided to try to arrive at *one* possible version of the development of the Västerhus church from its beginnings to its final phase, as illustrated by the excavations.

1) The first house of divine worship on the site was a stave church.

2) The choir of the stave church was dismantled to make way for a stone choir with an apse. This stage was never completed.

3) Instead, the whole of the rest of the stave church was dismantled.

[1] The plan is taken from Christie, 1938, p. 52. It was enlarged to the same scale and superimposed onto the Västerhus plan.

[2] Antikvarie Iwar Anderson has, in recent years, undertaken a series of important and detailed measurements of medieval church plans in Sweden. Some of his results are published in a recent paper, Anderson, I., 1960.

[3] Cf. King Sverre's Ecclesiastical Law on Plate 37, § 9 (underlined by the author). "And if, when it is proposed to building a church in stone, there are differences of opinion between some who wish this and others who do not, let those prevail who are wiser and in favour of improvement".

[4] For which I am especially indebted to antikvarie, fil. dr. Per-Olof Westlund.

4) Its place was taken by a stone church, its choir having a straight east wall and no apse. This church was orientated c. 10° in a counter-clockwise direction from the alignment of the original stave church.

Since the great majority of the interments are concentrated in the eastern half of the churchyard, we may assume that the stave church was in existence throughout a comparatively large part of the total duration of the use of the cemetery; this should be borne in mind when we come to consider possible alternative datings. It is frankly admitted that the sequence suggested above conforms closely to Berthelson's, in which a stave church is envisaged as the earliest structure, replaced by a stone church which covered it throughout its whole length and with the addition of an apse which, however, was never used, the western end continuing instead into a straight-ended choir.

It will be obvious that the principal difference between our two sequences lies in the suggestion, based on anthropological evidence, that the timber precursor to the final church at Västerhus was differently orientated and that, in view of the number of graves apparently associated with it, it must have been in existence for a comparatively long time.

We have not yet considered the discovery in several places of large and small collections of animal bones, lying in the churchyard soil and mainly comprising typical, so-called meal debris. These usually consist of fragments of extremity bones, ribs, parts of jaws and vertebrae of domestic animals — cattle, goats (sheep?), pigs and a small species of horse. A comparatively large proportion of the bones show characteristic signs of chopping or cutting.

Such animal bones occurred inside the tower in the W and in graves 20, 31, 55a, 97a and 147a, while quite large concentrations lay in the area N and E of the apse and choir. A few other spots, scattered over the whole churchyard, yielded similar bones.

These circumstances immediately suggest one of two conclusions: in the first place, they indicate that this was ancient cultivated land. We have already stated, by way of introduction, that Västerhus is situated within the great Västby Iron Age cemetery and at the centre of prehistoric settlement.

It can also undoubtedly be inferred that some at least of these bones are contemporaneous with the earliest Christian burials in the churchyard. The author has previously had occasion to report on the occurrence of meal debris of just this kind in Christian graves where there was no associated settlement evidence, viz. from the 13th century, and is personally convinced that the practice of eating a meal at the grave has roots going far back into remote antiquity.[1]

There is a third possibility to be considered, which applies in particular to the bones found in the tower: that in times of war, when fortified churches formed a refuge for the neighbourhood — specific passages in "Norges Gamle Love" relate to persons seeking sanctuary in the church, some remains of meals must have accumulated, even inside the church walls.[2]

The above corroborates Berthelson's statement, in the paper on Västerhus already cited, that "nothing was found to prove any direct historical connection between the Christian church

[1] This problem was examined by the author in a recent paper, Gejvall, 1960, p. 12.

[2] From inside the fortified Romanesque church of Hossmo in S. E. Sweden (Tunlse 1955) we have indeed determined such animal bone debris.

and the adjacent cemetery, although it is probably reasonable to assume that there was such continuity".[1]

The anthropological investigation provided little evidence that might contribute towards a solution of the problem of the date when Christian burials first began to be deposited in the churchyard. It would be unjustifiable and rash to suggest any exact date and the author therefore follows Berthelson in attributing these earliest burials to the year 1100 or a little before[2], with the reservation that future research may demand some modification of this.

The date of the deposition of the latest burials and the withdrawal of the graveyard from use (or its falling into disrepair) is just as difficult to establish. We have already seen that the new Frösö church was completed by about 1200 and we may assume that this resulted in the gradual cessation of burials at Västerhus. We have also shown that the chapel revenue remained unchanged from 1300 to 1481, implying stagnation if not actual regression, and there is also the document of 1578 which states clearly that Västerhus had by then ceased to be viable as a church and that there was a proposal to use it as a school.

We must not forget that at the time when this stagnation can be traced, events were taking place that fully justify the name often given to this period — The Age of the Death of the Church; this has an obvious connection with the Black Death of 1349—50.

We can hardly expect to be able to establish the extent of the fall in population resulting from the Plague. As far as Västerhus is concerned, there is nothing among the few datable finds from the graves or in the other evidence to suggest otherwise than that here as elsewhere its effect was calamitous. It was precisely with this in mind that the author used the figure of 250 years as one estimate of the duration of the churchyard in his attempts to calculate the mean size of the population served by Västerhus for burial purposes.

Otherwise, the anthropological finds provide no firm associations with known historical events. One might possibly have hoped that the cases of death from fatal wounds, demonstrated in the chapter on Pathology (VIII), all of which were males and indeed individuals of great muscular development and tall in stature, could be linked with a particular military engagement. These was victims, remarkably enough, lie buried in such a way that none of the graves overlap, the natural conclusion being that they were interred simultaneously. This suspicion is strengthened by the fact that there is little variation in the depths at which they were dug.

At a guess we might suggest that these warriors fell in the battle on the ice on Storsjö, the Great Lake, in 1178 between King Sverre's men and the Jämtland peasant army. Had the battle taken place further afield from their homes or at a time of year when there was no ice, the fallen would presumably have been buried close to the scene of the fighting; in this instance, however, their homes would have been sufficiently close to allow their bodies to be brought back to rest in their own native churchyard.

[1] Berthelson, 1952, p. 301.

[2] Ibid., p. 301.

Summary

This book is the presentation of a skeletal material, described and analysed in a number of different ways by the author because of the special arrangement of its morphological aspects, its historical and demographic importance, etc. It tries, however, to offer solutions to only a very small proportion of the many problems thrown up by a group of material of this kind.

Our results are set out in eleven shapters, the contents of which are as follows:

Part one

Chap. I is a summary of the site, its situation and the broad outline of the history of the ruins from the middle of last century up to their excavation and removal.

In *Chap. II* we present the skeletal material and mention briefly the comparative groups employed in our investigations. We also include a description of the measurement techniques adopted, the various stages of the research and the experiment of compressing the material description by translating it into an anthropological code. The statistical treatment of the metrical values is briefly summarised and the metrical errors discussed.

Chap. III consists of an attempt, on the basis of the total number of individuals and their estimated ages, to calculate the mean life span and mean population at Västerhus, using three possible alternative periods of use of the graveyard. The sex determinations are also dealt with here.

Chap. IV is concerned in general with the methods and difficulties involved in the calculation of stature and, in particular, with the estimated statures of the Västerhus individuals and their distribution throughout the cemetery.

In *Chap. V* comparisons are drawn between the 25 selected groups of skeletal material listed in Chap. II and the Västerhus population in regard to a small number of metrical characters of which the values are known for other, previously investigated and large groups of skeletal material.

Chap. VI is a catalogue and discussion of the longitudinal asymmetries in the pairs of limb bones of the adult individuals.

In *Chap. VII* the Västerhus crania are examined in the light of various chronological, environmental and hereditary factors. It is introduced with a short discussion of craniometry and that dilemma of anthropological science — environmental changes. Then follows a more detailed comparison between the medieval cranial material from Norway and the skull types at Västerhus and also the few previously known crania from elsewhere in Jämtland.

The next section of this chapter deals with the variability displayed by our material by comparison with that of the medieval groups from Trondheim and Oslo. Next we interpolate a discussion of the growth of the churchyard, based on such morphological changes of a chronological origin as can be distinguished among the Västerhus material.

The succeeding section is a detailed investigation of a series of diagrams of measurements and indices drawn up by the author for the female individuals to N and the males to S of the church respectively, and an examination of a number of parallels observed between these diagrams. This is linked with a consideration of the question whether the Västerhus skeletons should be taken as representing a homogeneous or a heterogeneous population, involving reference to the variability of the material.

The last section of the chapter presents a series of special morphological features, that are thought to be hereditary in origin, and their calculated frequencies. Together with metrical and general morphological likenesses and their distribution both within and between groups of burials lying to N and S of the church respectively, these "discrete traits" represent, in the author's opinion, strong evidence of kinship between the individuals, and it is suggested that groups of skeletal material such as that from Västerhus represent important subjects for research, on which one may hope to build the foundations of human genetic studies in the future.

Chap. VIII lists the pathological bone changes and skeletal injuries that were observed on the Västerhus material.

Part two

Chap. IX describes the small finds recovered during the archaeological excavations, together with a number of brief comments intended primarily to give some indication of the length of time during which the burial ground was in use.

In *Chap. X* the author has collated several excerpts from oral traditions and the medieval Norwegian laws, which he claims should be considered alongside the anthropological evidence to provide a background to the distinctive early medieval form of burial in Jämtland.

Chap. XI is devoted to an attempt, on the basis of the groupings of graves indicated morphologically in Chap. VII and on other evidence, to interpret the various building periods in the history of the church.

APPENDIX

The "Mjärthögen" skeleton

There are several reasons for the inclusion in this book of a short description of a discovery situated very close to Frösö but of a much later date and differing substantially, especially in its morphological characters, from the Västerhus material.

On 19 August, 1954, the skeleton of a male of about 40 years of age was excavated under the roots of a 250-year old fir tree that had been partly exposed as a result of wind erosion at Mjärthögen in Lit parish, due NE of Frösö. Details of the circumstances of the find and investigations of an odontological character carried out on the skeleton have already been published (Nässén 1954) and will not be recapitulated here.

The skeletal material has generously been placed at the author's disposal by rektor Gunnar Gudmundsson of Fjäl, to whom we are also indebted for help with the extant literature.

The Mjärthögen find is included in the tables of individual cranial measurements under the symbol "MJ"; illustrations in the five normae and a codified anthropological description of the cranium and lower jaw are given on p. C. 55 in Part III of this book.

The find comprises a heavily-built cranium with damaged left zygomatic arch and decomposed occipital condyles and mastoidal process, and large, massive lower jaw. The extremity bones exhibit a large number of decomposition defects — most of the epiphyses have disintegrated — and whole long bones, from which an estimate might have been made of stature, are lacking.

The anthropological characters of the cranium can be summarised as follows: Aristencranial,[1] mesocranial, brachyhypsicranial, orthocranial (L-OBH-I), metriocranial, eurychamaecranial bordering onto metriocraneity (B-OBH-I), sphero-parallelometopic, metriometopic bordering onto eurymetopism, orthometopic, orthognathous, —, orthofacial (Upper facial l-h-i (Hjortsjö)), —, chamaeconchous (dx), mesorrhine, brachyeurystaphyline, (metriostaphyline) and mesomandibular.

It may be said of this cranium as a whole that in all normae it is characterised in general by a marked divergence from the traits that we have been able earlier in this book to observe in both the Västerhus and the comparative groups of material.

It is never advisable to pronounce a verdict or draw a conclusion concerning the "race" to which a skull belongs on the basis of a single specimen. If we were to venture, without any claim to scientific precision, to place the cranium from Mjärthögen into one particular category of

[1] or — craneous, etc.

measured and described prehistoric crania illustrated in the anthropological literature, it would be in a group located much further south than the site where it was found. It combines incontrovertible Crô-Magnoid traits with a number of features that take ones mind back to the many illustrations in the most recent Danish publications in this field, and especially to those of the neolithic crania from Borreby.[1] There are also immediate likenesses to Nielsen's Møn type.

The main reason for mentioning this skeleton in the present context, however, lies not in the morphological characters but rather in the pathological changes observed in the long bones. According to an investigation by professor K. Lindblom, to whom I am indebted for the X-ray photographs reproduced in fig. Pl. 25, it is possible to detect on the long limb bones, humeri, radii and ulnae, femora, tibiae and fibulae "periostal bony accretions and partially loosened corticalis". These changes "most closely resemble Morbus Paget", Lindblom goes on to suggest, but he also stresses the fact that confirmation of this diagnosis would require comparison with known material and microscopic analysis.

Fig. Pl. 27 serves to illustrate a characteristic type of channelling that occurs on these pathologically changed limb bones. It is not the first occasion on which such a phenomenon has been observed and described. In his study of skeletal material from Øm monastery, Isager (1936) illustrates obviously similar formations on long bones severely altered as a result of advanced syphilis; these were examined by professor Sjövall and interpreted by him in this paper as caused by strapping with a bandage. The illustrations from Isager's paper are juxtaposed beside the bones from Mjärthögen in fig. Pl. 27, and the similarity between them will be obvious to the reader. Sjövall's investigations showed that such channelling occurs on the shin and thigh bones, and he cites comparative material from St. Michael's churchyard in Lund from roughly the same period as the Jutlandic examples, viz. the 16th century.

Of these formations Sjövall writes: "They all take the form of elongated grooves running either horizontally or obliquely. Further, several are as a rule found to occur on one and the same bone. Pressure marks displaying such features can only be interpreted as *the effects of bands that had been tied tightly round the bone at the places in question*. This explanation is further supported by the width of the grooves and their specialised nature. The broader ones as a rule display a division into several, usually three, smaller channels running parallel with the length of the bandage, while the undivided grooves are most frequently of the same width as one of these channels. The character of the strapping is thus indicated, and it is noteworthy that precisely the same type is represented on every one of the bones".[2]

After close scrutiny of these illustrations of the Mjärthögen skeleton and from a study of the reports, cited by Sjövall from various historical sources, of the treatment given to severe cases of syphilis in the 16th century, it must be admitted that his interpretation may well be correct, even though it seems almost unbelievable to a layman that individuals with so extensive syphilitic necroses of the soft tissues that the bone lay completely exposed could really survive long enough for the bandages to succeed in leaving such traces of their impressions as these. It is particularly extraordinary that the binding should, as can be seen in fig. Pl. 27, have been passed *in between* the tibia and fibula at the calf.

[1] Bröste et al., 1956; cf. also Scheidt, 1924, figs. 1 and 2.
[2] Isager, 1936, p. 112 ff.

The author, without necessarily doubting the correctness of Sjövall's interpretation, has therefore sought alternative possible explanations of these channellings and comes to the following conclusion: As stated above, these are cases of a heavy and relatively rapid-growing accretion of bony tissues which must have involved an increase in thickness and, consequently, in circumference of the affected skeletal bones, though the length factor remained unchanged. Expressed osteometrically, this implies an increase in the robusticity index. We may go on to recall that the recorded examples of these channels refer only to such as run transversely or diagonally across a limb bone, never longitudinally, i.e. lengthwise along the bone. Herein lies the reason why it seems so difficult to explain them in any other way than as pressure marks from strapping of some kind. The author suggests, however, that an expansion of the bone tissues in these cases obviously neither does nor needs to involve any longitudinal expansion of the surrounding nutrient vessels which lie close against the periosteum, and that the channellings must therefore be interpreted as greatly deepened sulci arteriosi et venosi as a result of the mechanical effects of the progressive increase in size of the bony accretion. If one examines a bone that displays such channelling, one soon detects ramifications of ever finer and simpler grooves which themselves are enough to disprove the hypothesis that they were caused by bandaging. What is more difficult to explain is the circumstance that the broader channels normally consist of one central, deeper, groove flanked by two rather shallower "traces". According to Sjövall, this proves that a particular kind of bandage was used for the strapping.[1] But since similar formations apparently occur in association with every such accretion on limb bones, they must be dependent on anatomical characters common to all the individuals concerned, in this case the parallel courses followed by the arteries and the returning veins.[2] Impressions of blood vessels can, indeed, be observed on crania in the Västerhus material, e.g. on the females nos. 82 and 85 (fig. Pl. 17), where the frontal bones show clearly the channels formed by the ramus frontalis lateralis of the arteria carotis externa running from the foramina supraorbitalia.

Pressure marks from a bandage ought, if they can be thought to survive at all, to cause grooves with a softer outline and covering a wider area. Thanks to Sjövall's and Isager's material and hypotheses, an interesting medico-historical problem has been raised which only the discovery of further finds and in vivo observation can finally solve.

As to the date of the Mjärthögen skeleton, Nässén states inter alia that the circumstances of the find suggest an antiquity of 250—300 years. "There is a tradition current in Lit that during the Seven Years War in Scandinavia (1563—70) a battle between Jämtlanders, Norwegians and Danes took place on the so-called Toppnäset, in which a large number of Danes were slain. Their bodies are afterwards said to have been taken to Mjärthögen on the other side of the river and buried there. Whether there is any historical foundation for this tradition or not still remains to be discovered".[3]

[1] Isager, 1936, p. 112 ff.
[2] Cf. e.g. fig. 676, p. 624 in Bd. I of Rauber-Kopsch, 1955.
[3] Nässén, 1955, p. 129.

List of serials and their abbreviations

Act Anat=Acta Anatomica, Basel & New York
Act Arch=Acta Archaeologica Lundensia, Lund
Act Gen Stat Med=Acta Genetica et Statistica Medica, Basle, New York
Act Odont Scand=Acta Odontologica Scandinavica, Stockholm
Act Psych et Neur=Acta Psychiatrica et Neurologica, Copenhagen
Act Rad=Acta Radiologica, Stockholm
Altschles Blätt=Altschlesiche Blätter, Breslau
Am Anthr-ist=American Anthropologist, Menasha, Wis.
Am J Hum Gen=American Journal of Human Genetics (Publ. by American Soc. of Human Genetics), Baltimore, Maryl.
Am J Orthodont=American Journal of Orthodontics, St. Louis.
Am J Phys Anthr=American Journal of Physical Anthropology, Philadelphia, Pa.
Am Ortho-psych Ass (Res Mon)=American Orthopsychiatric Association, (Research Monograph), New York.
Anthrop:ca NS=Anthropologica N.S., Ottawa.
Anthr Forsch=Anthropologische Forschungen, Wien.
Anthr Anz=Anthropologischer Anzeiger, Stuttgart
Antikv Ark K Vitt-Ak=Antikvariskt Arkiv, Kungl. Vitterhets Historie och Antikvitets Akademien, Stockholm.
Årbok Fören t Norsk Fornt-minn-merk Bevar=Årbok, Föreningen til Norske Fortidsminnesmerkers Bevaring, Oslo.
Arch of Orthodont=Archives of Orthodontics, New York.
Ark Nord Med=Nordiskt Medicinskt Arkiv, Stockholm.
Årsber K Hum Vet-Ak Lund=Årsberättelse, Kungl. Humanistiska Vetenskapssamfundets i Lund, Lund.
Årsbok Bromma hemb=Bromma hembygdsförbunds Årsbok, Stockholm.
Årsskr Lunds Univ NF=Lunds Universitets Årsskrift, N.F., Lund.
Biol Generalis=Biologia Generalis, Vienna and Leipzig
Biom=Biometrica, Cambridge
Brit Med J=British Medical Journal, London.
Bull Brit Med=British Medical Bulletin, London.
Bull Los Ang Neurol Soc=Bulletin of Los Angeles Neurolog. Society, Los Angeles.
Cuad d Inst Hist Mex=Cuadernos del Instituto de Historia, Serie Anthopológica, Universidad Nacional Autonoma de Mexico, Mexico.
Ergeb d Chir u Orthopäd=Ergebnisse der Chirurgie und Orthopädie, Berlin
Fornv K Vitt-Ak=Fornvännen, Kungl. Vitterhets Historie och Antikvitets Akademien, Stockholm.
Forsch u Fortschr=Forschungen und Fortschritte, Berlin.
Förhandl K Fysiogr Sällsk=Förhandlingar, Kungl. Fysiografiska Sällskapets i Lund.
Förh Uppsala Läk-fören=Förhandlingar, Uppsala Läkareförening, Uppsala
Genetica=Genetica, Nederlandsch Tijdschrift voor Erfelijkheids — en Afstammingsleer, s'-Gravenhage.
Hammaburg=Hammaburg, Vor- und Frühgeschichtliche Forschungen aus dem niederelbischen Raum, Hamburg.
Handl K Fysiogr Sällsk Lund=Handlingar, Kungl. Fysiografiska Sällskapets Lund.
Handl K Sv Vet-Ak Sthlm=Handlingar, Kungl. Svenska Vetenskapsakademiens, Stockholm.
Handl K Vitt-Ak Sthlm=Handlingar, Kungl. Vitterhets Historie och Antikvitets Akademiens, Stockholm.
Heimbygdas Tidskrift=Heimbygdas Tidskrift, Östersund earlier Jämten, Östersund.
Hered=Hereditas, Lund.
Homo=Homo, Zeitschrift für die vergleichende Forschung am Menschen, Göttingen-Berlin-Frankfurt.
Hum Biol=Human Biology, Baltimore.
J of Bone & Joint Surg=The Journal of Bone and Joint Surgery, Boston and London.

J of Forens Medic = Journal of Forensic Medicine, Cape Town.
J of t R Anthr Inst London = Journal of the Royal Anthropological Institute of London, London.
Man = Man (Published by the Royal Anthropological Institute London).
Medd Grønl Cop = Meddelelser om Grønland, Copenhagen.
Medd Östergötl Mus = Meddelande från Östergötlands och Linköpings stads museum, Linköping.
Medd Sthlms Stads Mus-nämnd = Meddelanden från Stockholms stads Museinämnds verksamhet, Stockholm.
Mém Soc d'Anthr Paris = Mémoires de la Société d'Anthropologie de Paris, Paris.
Nov Act Soc Scient Ups = Nova Acta Societatis Scientarum Upsaliensis, Uppsala.
Odont Revy = Odontologisk Revy, Lund.
Odont Tidskr = Odontologisk Tidskrift, Göteborg
Phil Trans R Soc Ldn = Philosophical Transactions of the Royal Society of London.
Proc R Soc Ldn = Proceedings of the Royal Society of London.
Radiology = Radiology, Syracuse, N.Y.
Rep Sino-Swed Exp = Reports from the Scientific Expedition to the North-Western Provinces of China under the Leadership of Dr. Sven Hedin (The Sino-Swedish Expedition. Stockholm. Etnografiska Museet).
Rev Men de l'Ec d'Anthrop = Revue Men. de l'École d'Anthropologie, Paris.
Rig = Rig, Stockholm, Nordiska Museet.
Riv Geront e Geriat = Rivista Gerontologia e Geriatria.
Samf Sv Ark Sthlm = Svenska Arkeologiska Samfundet, Stockholm.
Statist Centr-byr Sthlm = Statistiska Centralbyrån, Stockholm.
Skr Inst f Sammenlign Kult-forskn = Skrifter, Instituttet for Sammenlignende Kulturforskning, Oslo.
Skr d Kong Norsk Vid Selsk Trondh = Skrifter af det Kongelige Norska Videnskabers Selskab, Trondheim.
Skr-ser Lits hemb = Skriftserie, Lits Hembygdsförenings, Lit, (Jämtland)
Skr d Norsk Vid-Ak Oslo Mat Nat Kl Oslo = Skrifter utgitt av det Norske Videnskapsakademi i Oslo, I, Matem. Naturv. Klasse, Oslo (formerly Christiania).
Sv Läkartidn = Svensk Läkartidning, Stockholm.
Sv Tandläk-tidskr = Svensk Tandläkartidskrift, Stockholm.
The Dental Record = The Dental Record, London.
Transact Europ Orthodont Soc = Transactions of European Orthodontic Society, The Hague, Holland.
Tidskr Västergötl Fornm-fören = Tidskrift, Västergötlands Fornminnesförenings, Skara.
Verh Ges f Phys Anthr = Verhandlungen der Gesellschaft für Physische Anthropologie, Stuttgart.
Viertelj-schr f Zahnheilk = Vierteljahrsschrift für Zahnheilkunde, Berlin.
Viking = Viking, Tidskrift for norrøn arkeologi, Oslo.
Yearb Phys Anthr NY = Yearbook of Physical Anthropology, New York.
Ymer = Ymer, Svenska Sällskapet för Antropologi och Geografi, Stockholm.
Z f Neur u Psych = Zeitschrift für die gesamte Neurologie und Psychiatrie, Berlin.
Z f Morph u Anthr = Zeitschrift für Morphologie und Anthropologie, Stuttgart.
Z f Rass-kunde = Zeitschrift für Rassenkunde, Berlin and Leipzig.
Zentr-blatt f Allg Path u Path Anat = Zentralblatt für Allgemeine Pathologie und Pathologische Anatomie, Jena.
Zool Bidrag = Zoologiska Bidrag, Uppsala.

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ZUCKERMAN 1951c = ASHTON and ZUCKERMAN 1951c.

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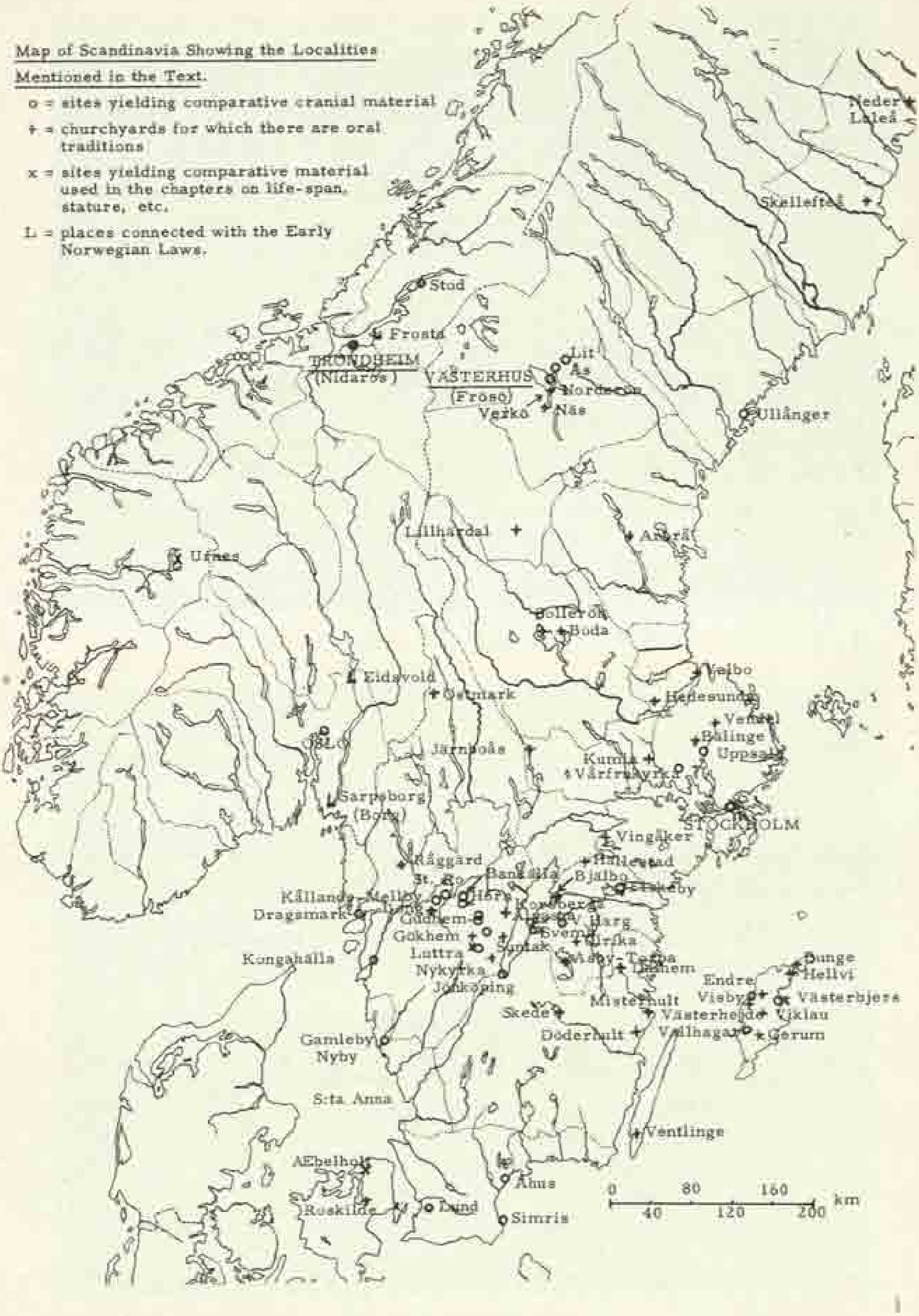
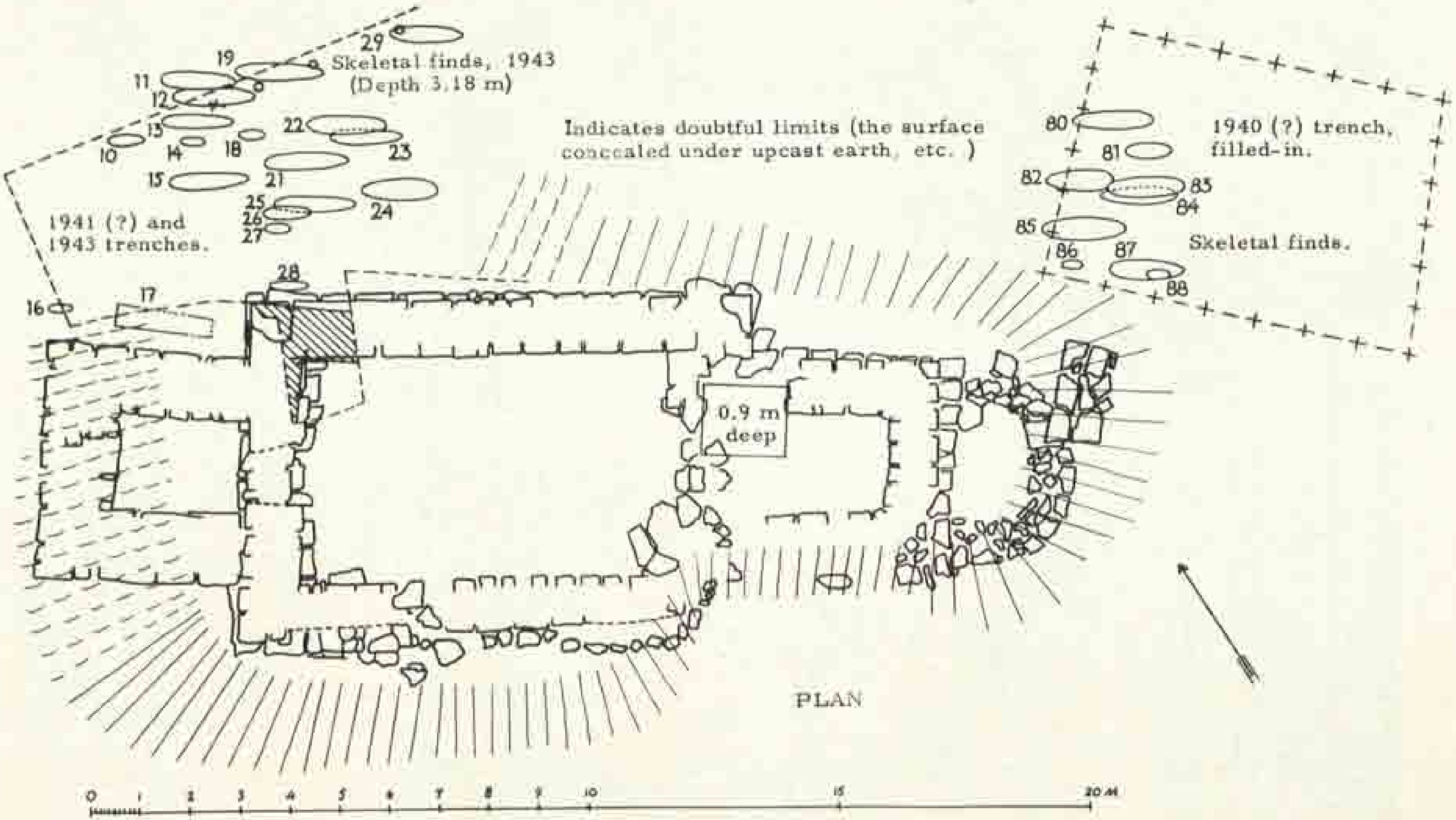
PART THREE

PLATE SECTION



Map of Scandinavia Showing the Localities
Mentioned in the Text.
o = sites yielding comparative cranial material
+ = churchyards for which there are oral traditions
x = sites yielding comparative material used in the chapters on life-span, stature, etc.
L = places connected with the Early Norwegian Laws.
Stod
Frosta
TRONDHEIM
(Nidaros)
VÄSTERHUS
(Frosö)
Lit
Ås
Verkö
Näs
Ullånger
Skellefteå
Lillhärdal
Urnes
Boda
Eidsvold
Östmark
Valbo
Bälinge
Uppsala
Järnboås
Kumla
Vårfrukyrka
Sarpsborg
(Borg)
STOCKHOLM
Vingåker
Råggård
Bjälbo
Dragsmark
Gökhem
Luttra
Nykyrka
Jönköping
Kongahälla
Endre
Visby
Västerbjers
Hellvi
Misterhult
Västerhejde
Viklau
Skede
Döderhult
Gerum
Gamleby
Nyby
S:ta Anna
Ventlinge
Æbelholt
Åhus
Roskilde
Lund
Simris
0
80
160
40
120
200
km

Plan of Västerhus chapel made by Sven Hammarlund in the summer of 1947, supplemented from Greta Arwidsson's sketch plan of Sept., 1943, showing the extent of the diggings that damaged the ruin-area. (The graves from two of these areas have been interpolated.)



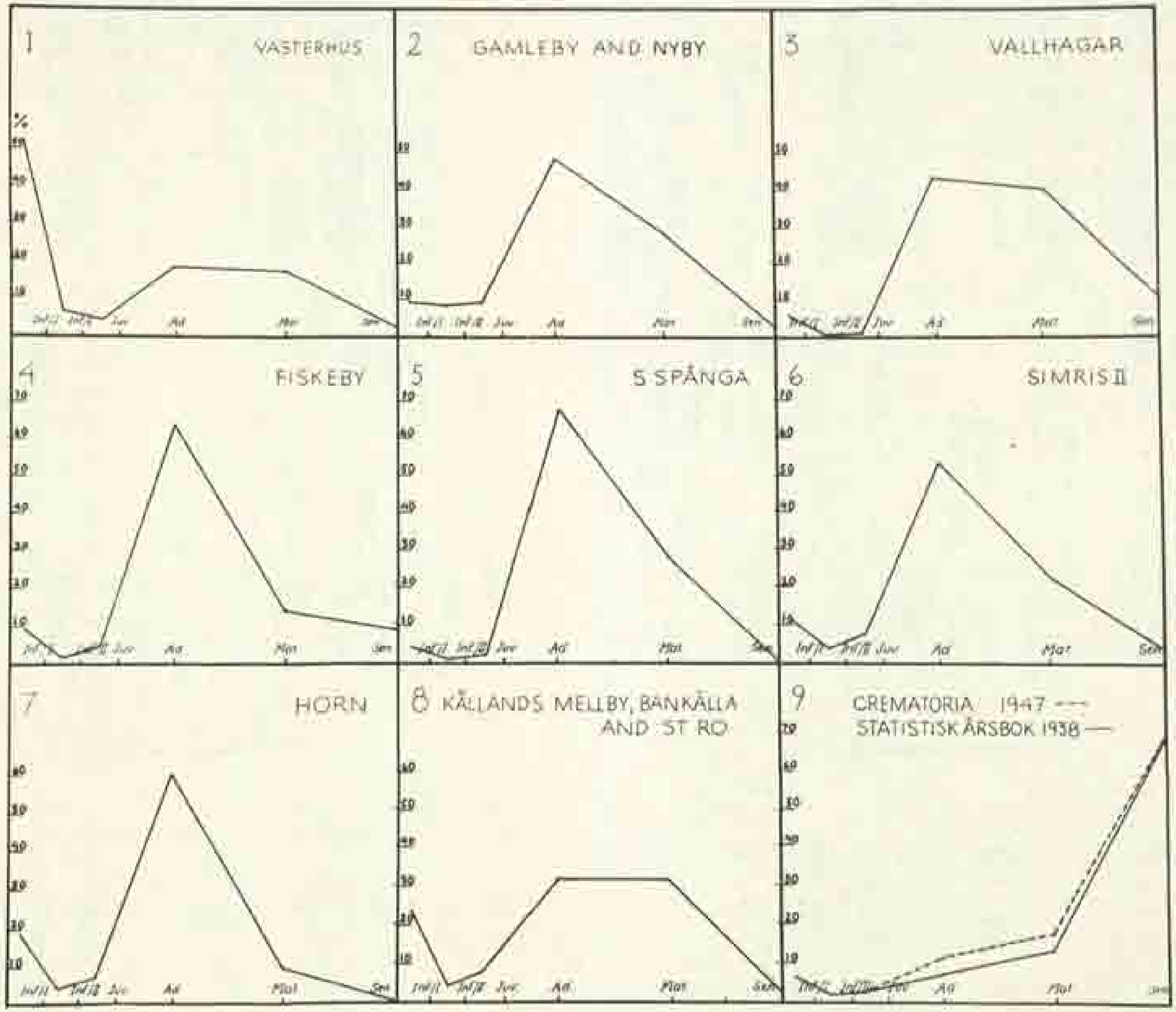
Västerhus

Excavation Site on Frösö Island in Lake Storsjön, Jämtland. Aerial Photo 1947.

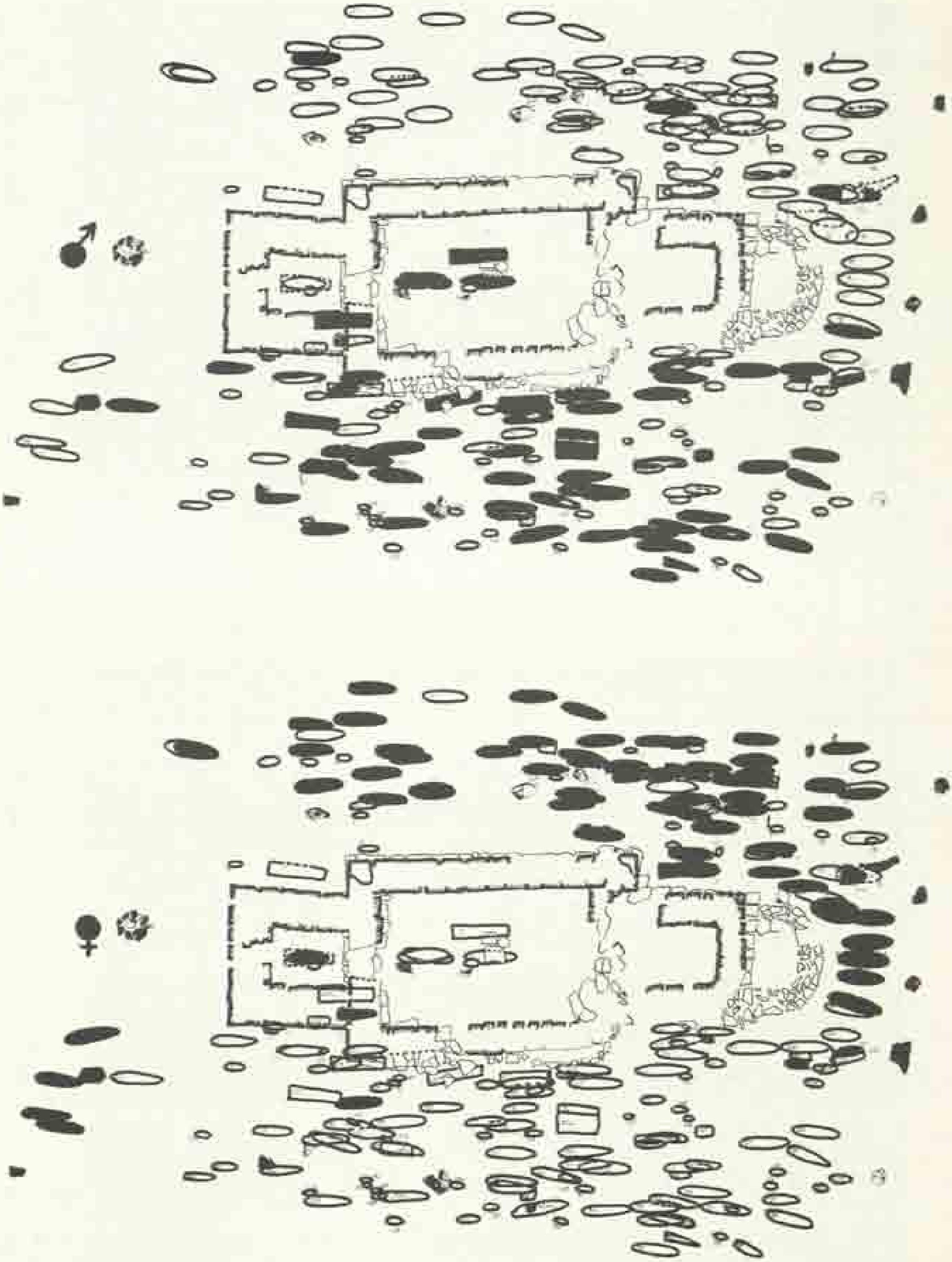
1947 Excavations. The Chapel from the Air. Photo Jämtland Wing, R. S. A. F.

Västerhus: Female Grave No. 80 (above) and 82, both from SE. Photo: N. Lagerholm.

Diagrams Showing Age Determinations Made on Different Skeletons and Cremated Bone Material from Prehistoric, Medieval and Recent Populations (cf text in chapter III).



VÄSTERHUS: The Segregation of the Males and Females in the grave-yard.



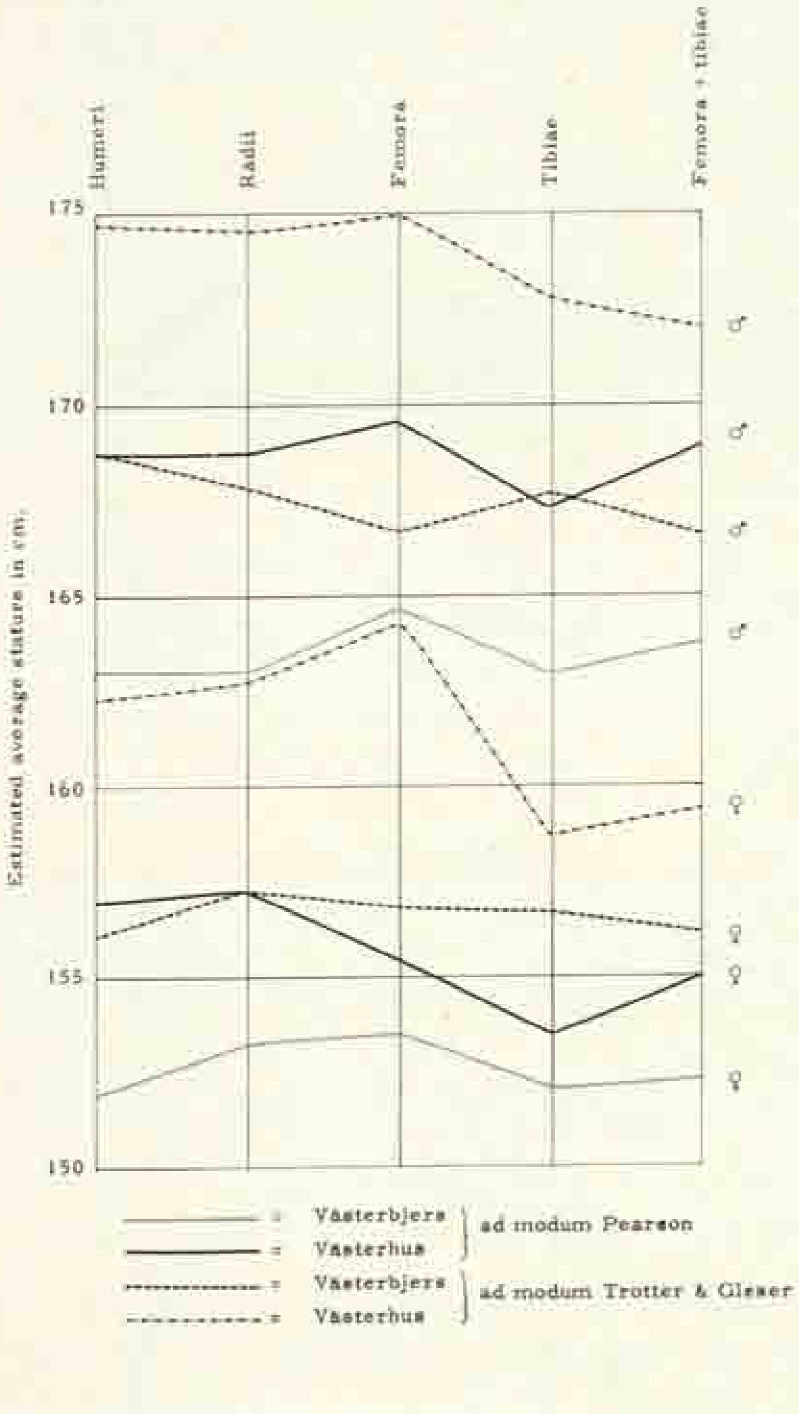
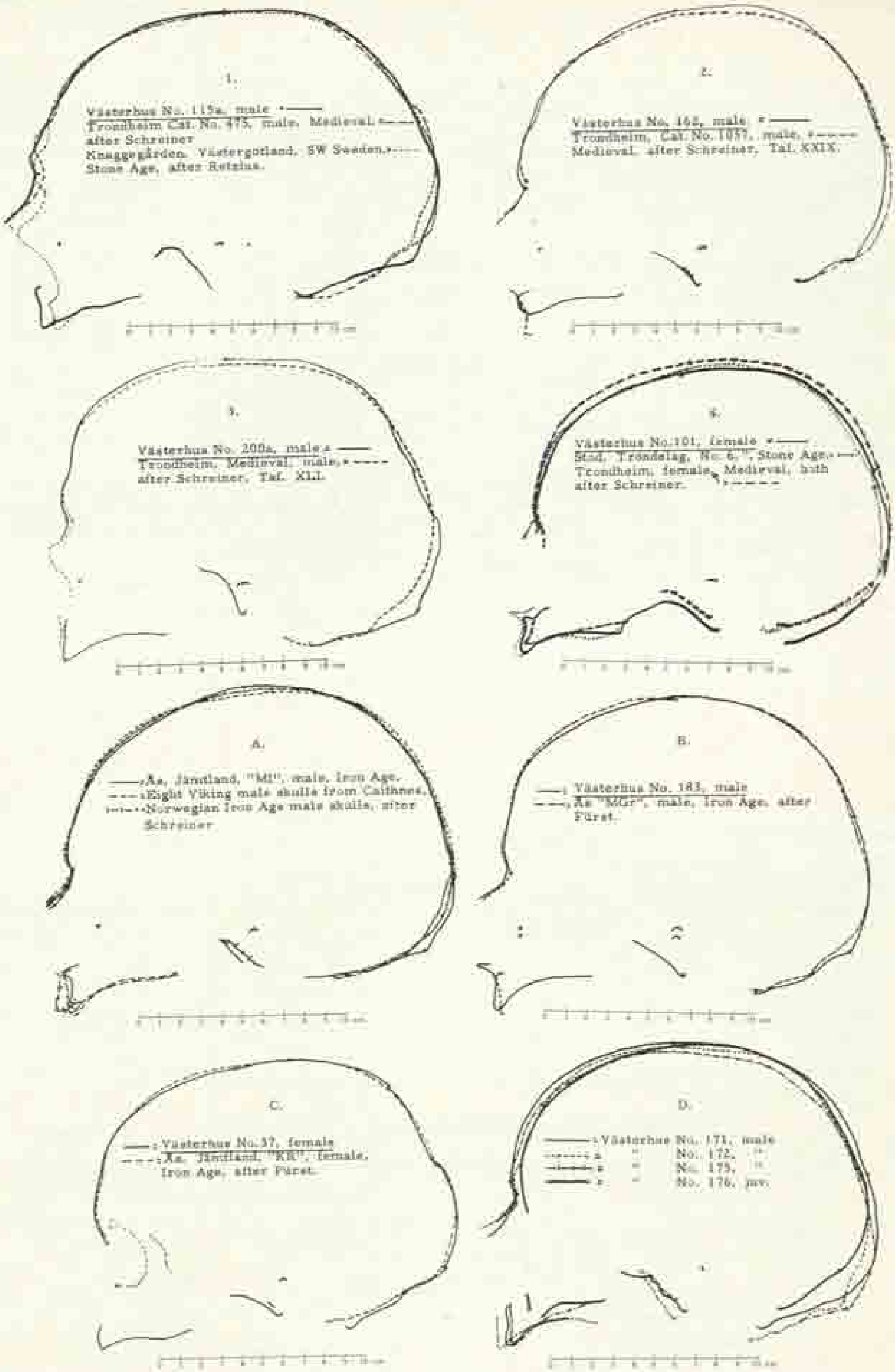


Diagram showing stature estimations ad modum Pearson and Trotter & Gleser on the populations from Västerbjers (Gotland, Stone Age) and Västerhus (Jämtland, Medieval).

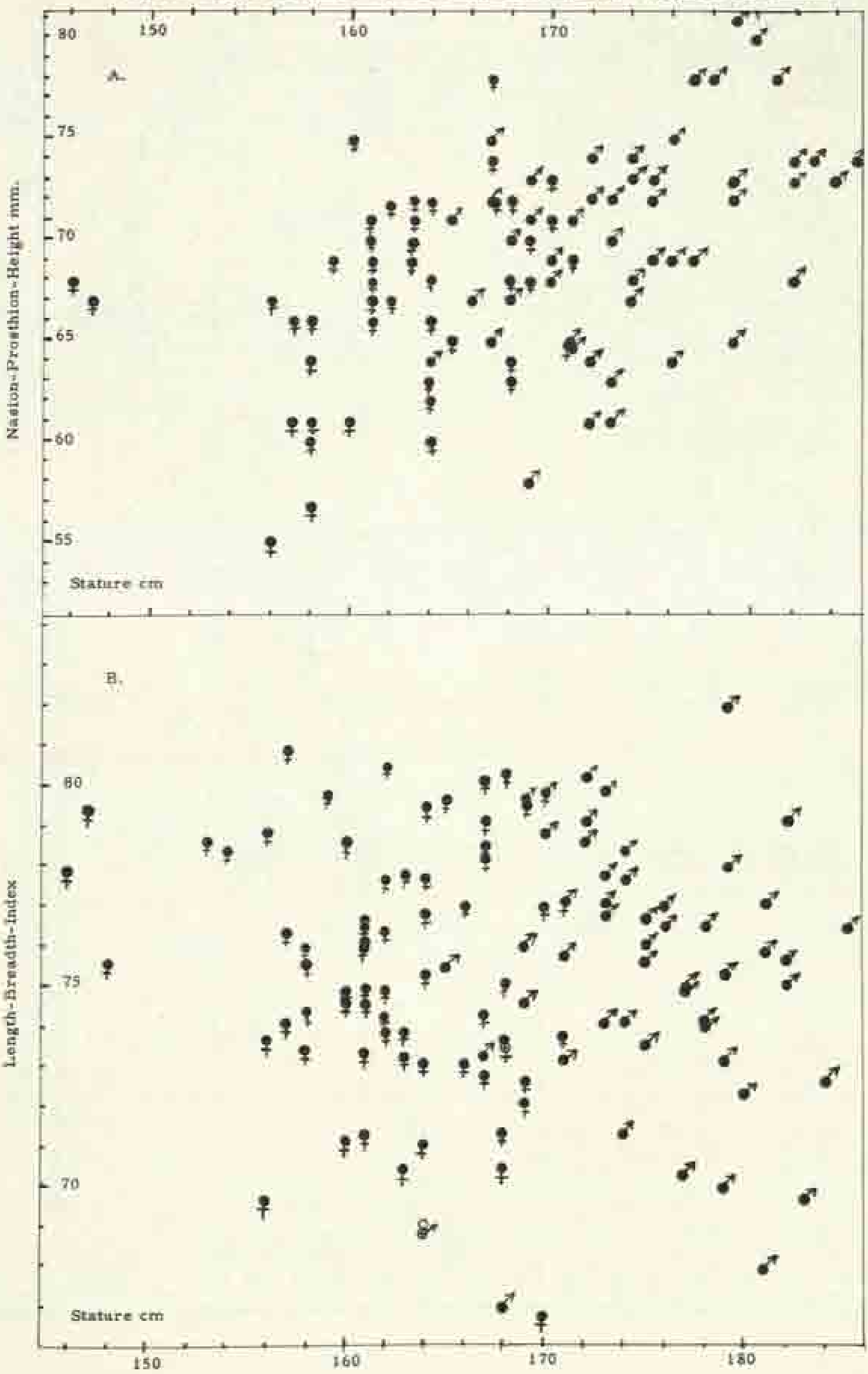
Plate 8

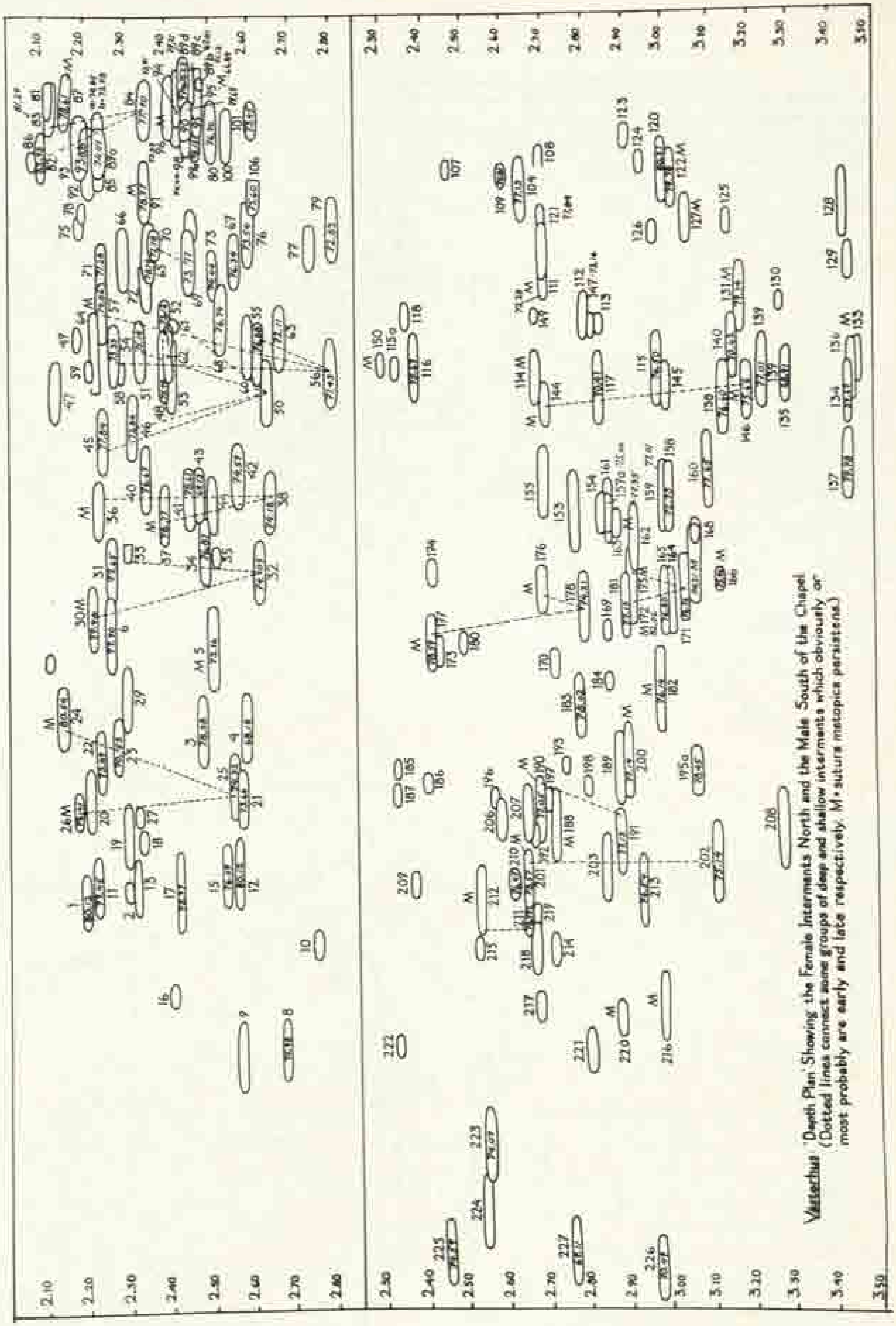


Sagittal Contours of Västerhus' and Comparative Skull Material Dealt with in Chapter VII.

Västerhus.

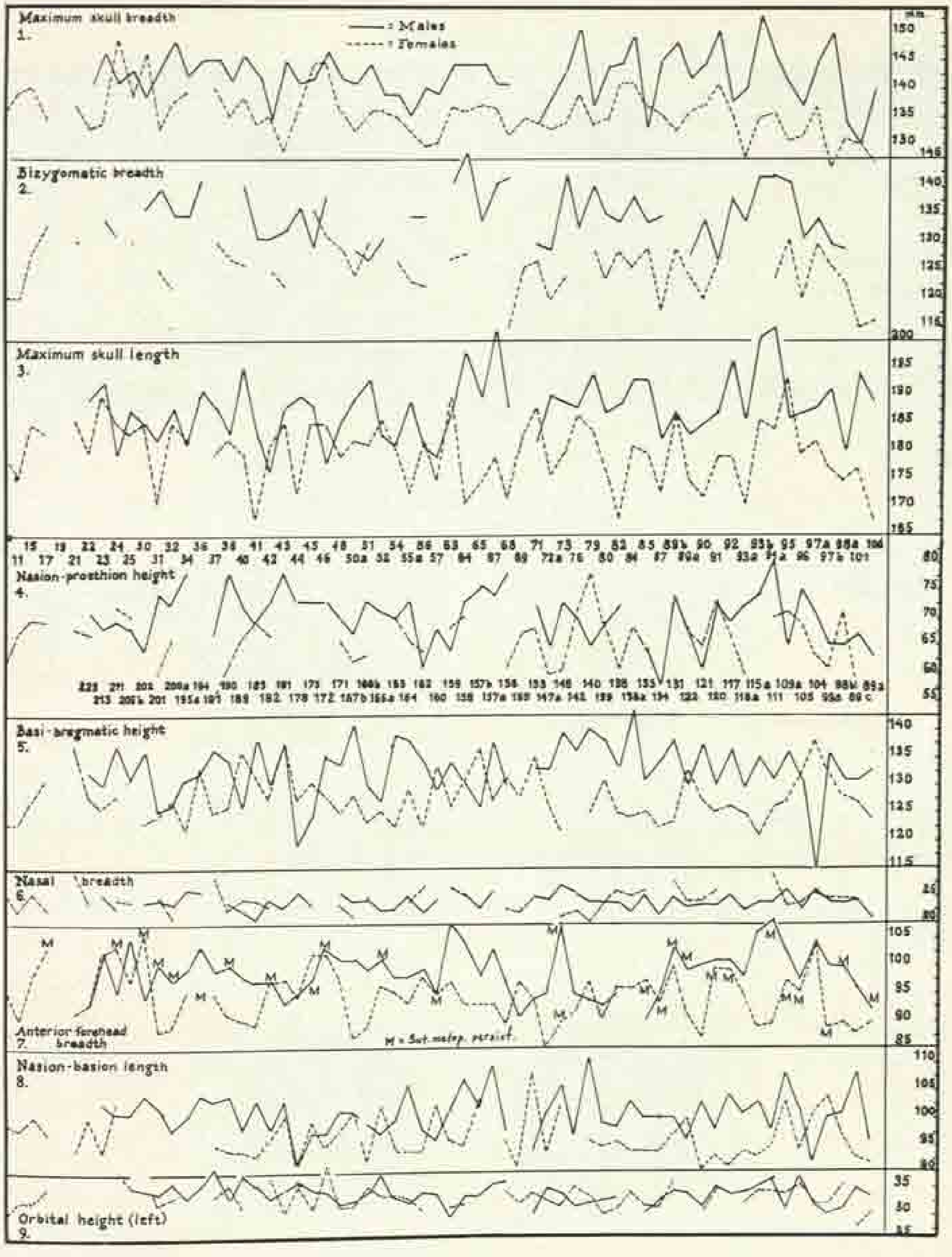
Correlation Between Calculated Stature (ad modum Trotter & Gleser) and Nasion-Prosthion Height (A) = Positive Correlation, and Between Stature and Length-Breadth-Index of the Skull (B) = Negative Correlation.





Vesterhus 'Death Plan' Showing the Female Interments North and the Male South of the Chapel (Dotted lines connect some groups of deep and shallow interments which obviously or most probably are early and late respectively. M = sutura metopica persistens.)

Västerhus: Graphs of Nine Cranial Measurements of Adult Females North of and Males South of the Church.



Västerhus: Graphs of Three Cranial Indices and One Cranial Measurement of Adult Females North of and Males South of the Church.

12 a

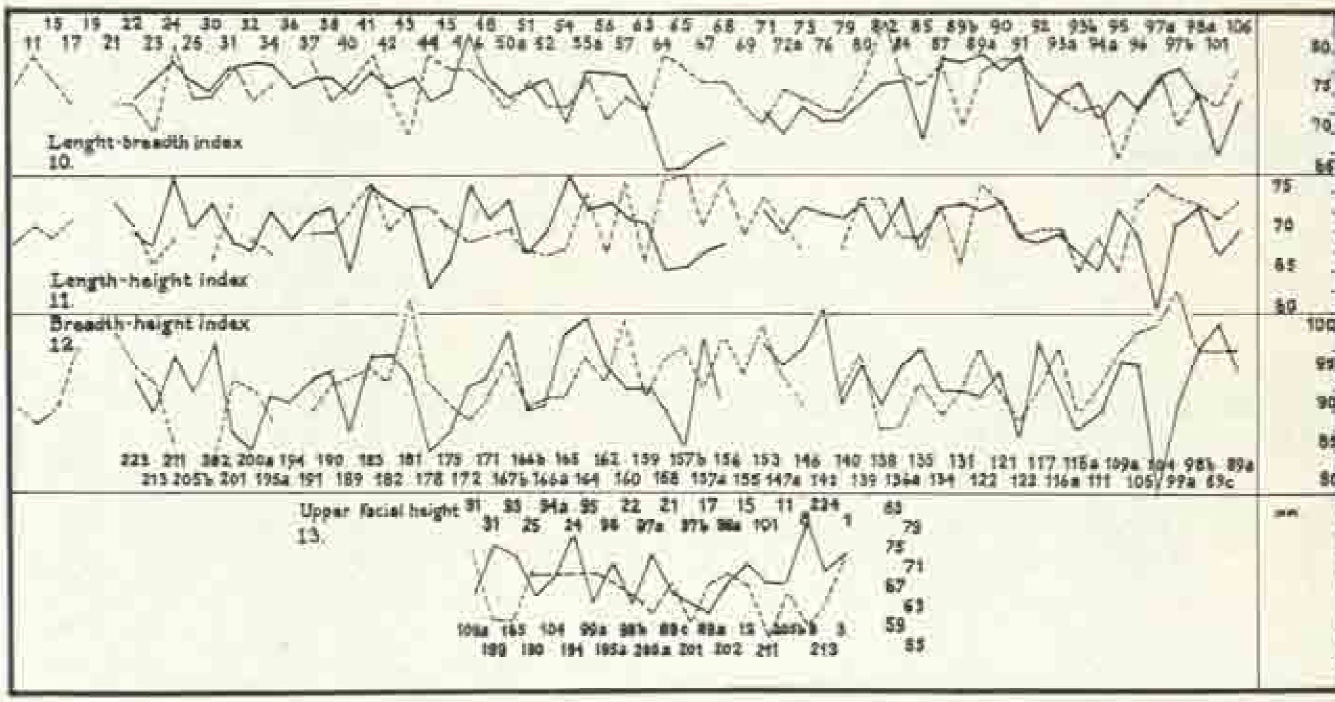


Plate 12B. Tres Indices Västerhus and Trondheim (Schreiner)

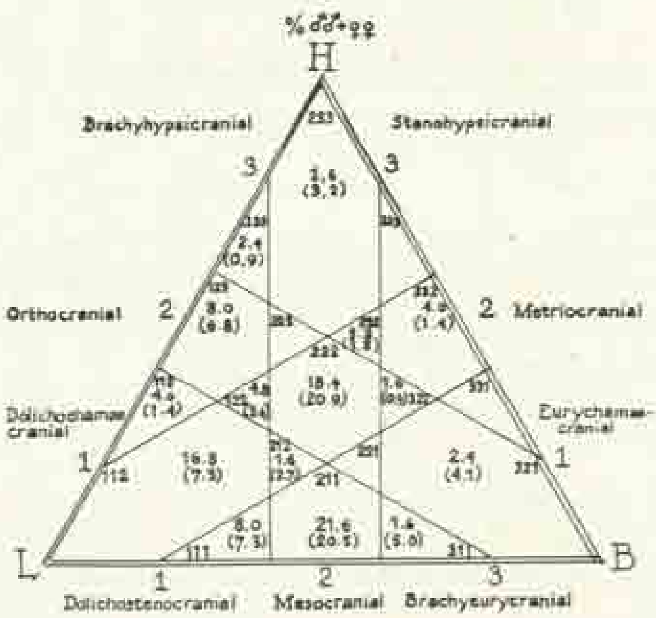
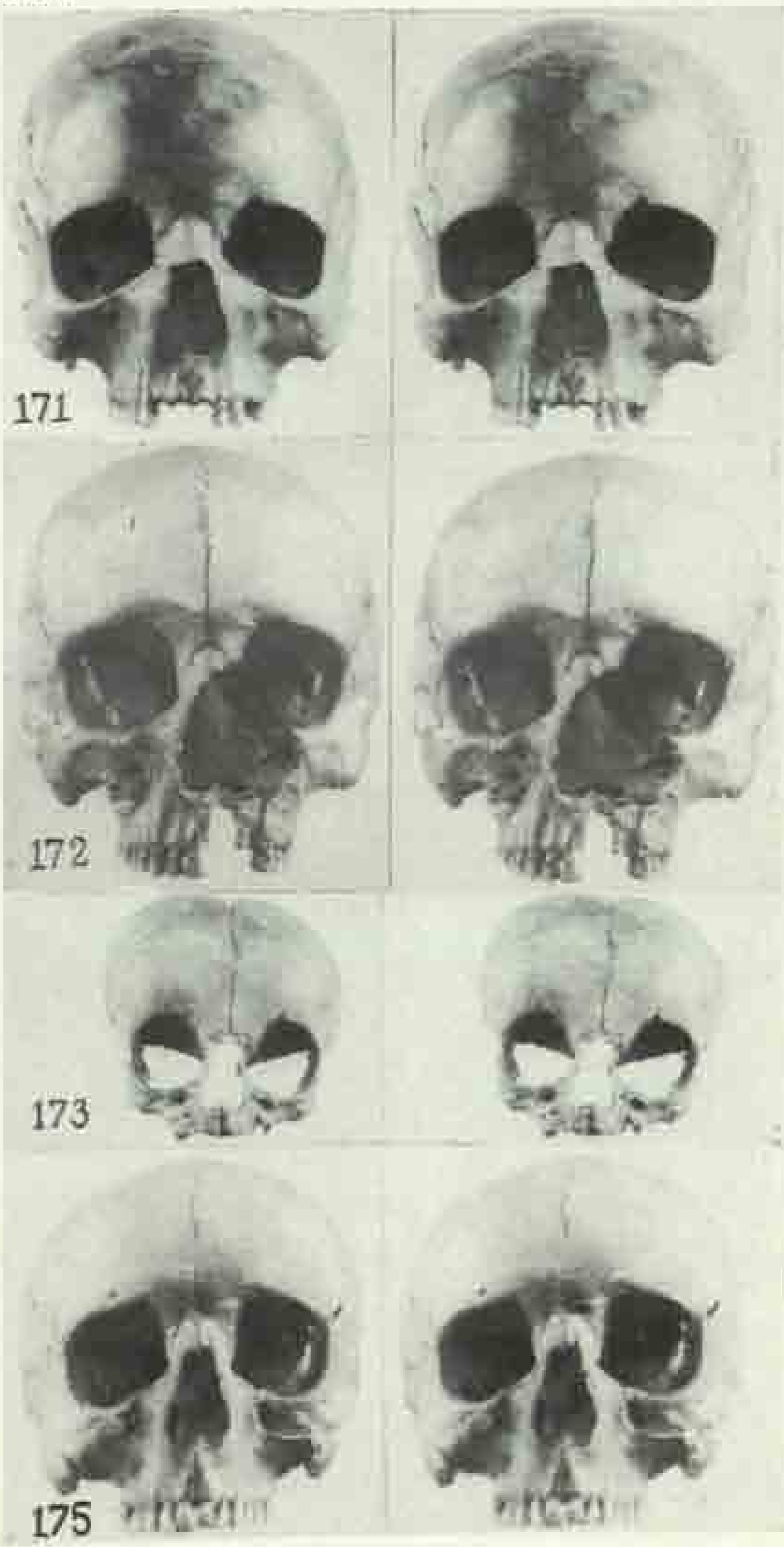


Plate 12C. Västerhus: The Distribution of the Tres Indices (First), Tres Indices Mod. (Hjortsjö) and Tres Indices Facialis (Hjortsjö) in the Cranial material of adult individuals

	TrI		TrI Mod.		TrI Fac.	
	♀	♂	♀	♂	♀	♂
111	8	5	7	7	5	4
112	13	8	13	8	4	–
113	1	4	7	6	2	–
122	4	2	–	–	–	–
123	6	4	7	2	2	–
133	3	–	–	–	2	2
211	14	13	13	17	5	3
212	2	–	–	1	–	–
221	–	–	–	2	–	2
222	7	16	8	12	3	5
223	–	–	2	–	1	–
232	2	3	–	–	1	–
233	1	1	1	–	3	2
311	1	1	1	1	3	3
321	1	2	2	4	2	5
322	1	1	3	1	1	2
331	–	–	–	–	1	1
332	3	2	–	–	7	7
333	–	–	–	–	3	12
	n = 64	n = 61	n = 64	n = 61	n = 45	n = 46

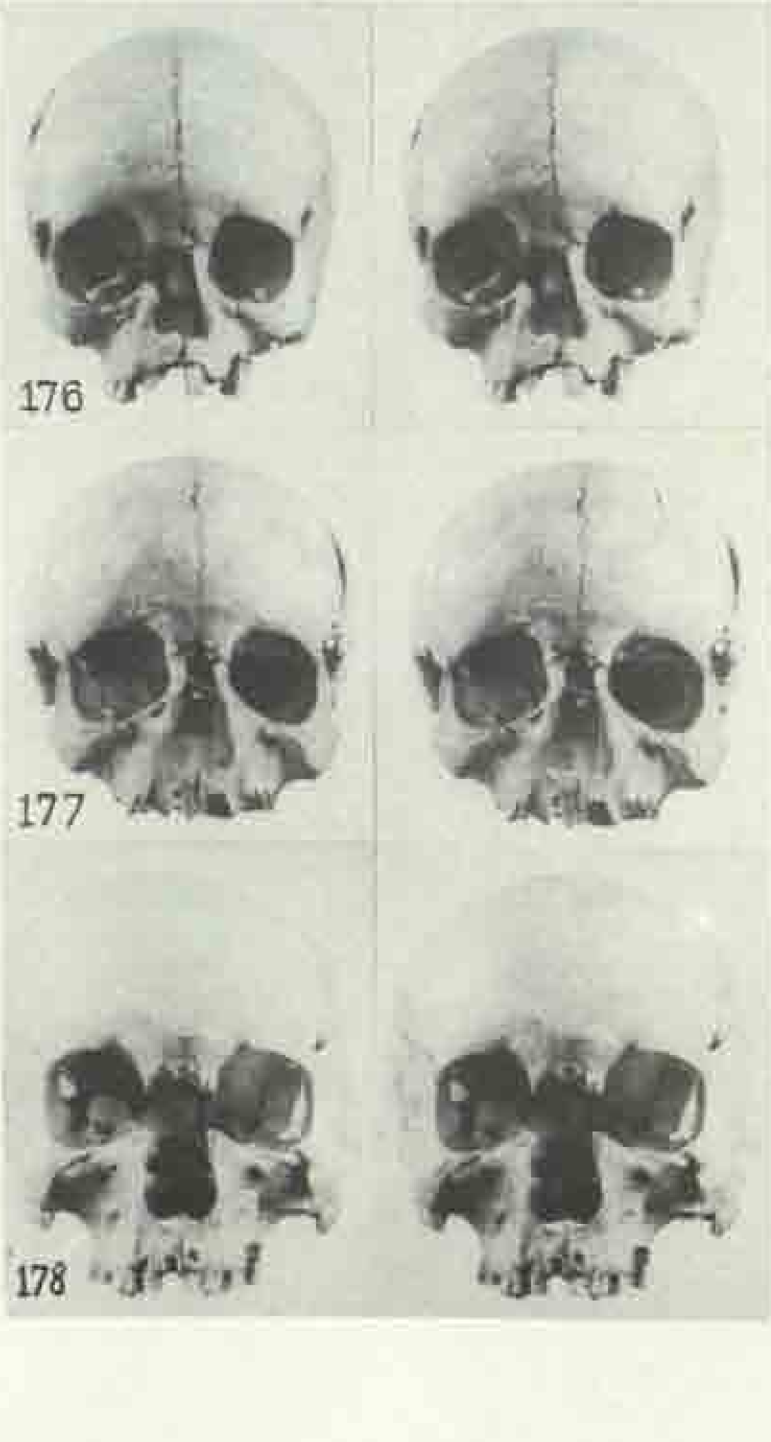
Västerhus.

Three-Dimensional Photographs of a Series of Skulls (No:s 171 - 174) South of the Nave, (text see chapter VII:J).



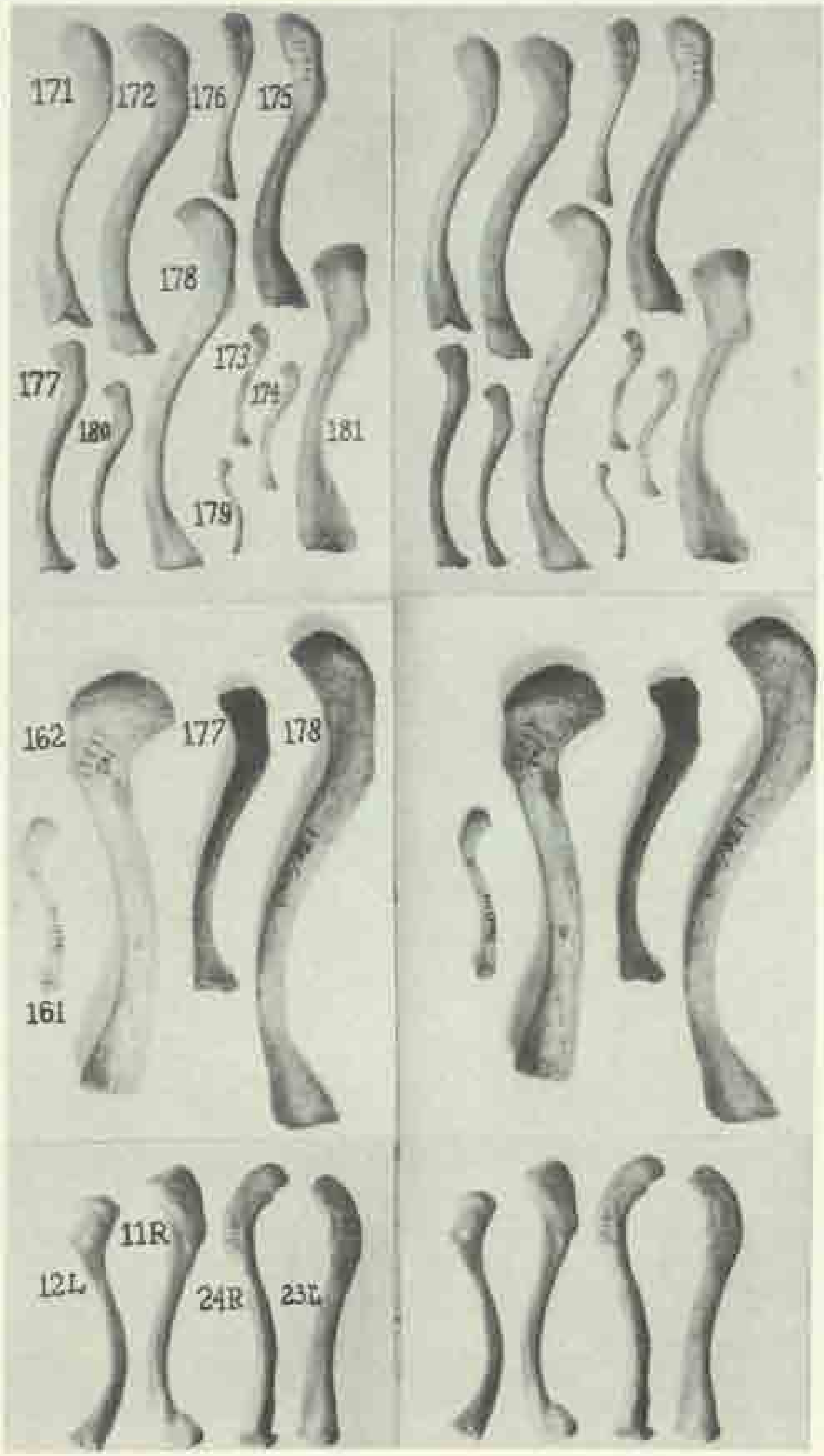
Västerhus.

Three-Dimensional Photographs of a Series of Skulls (continued), (No:s 176 - 178) South of the Nave (text see chapter VII:J).



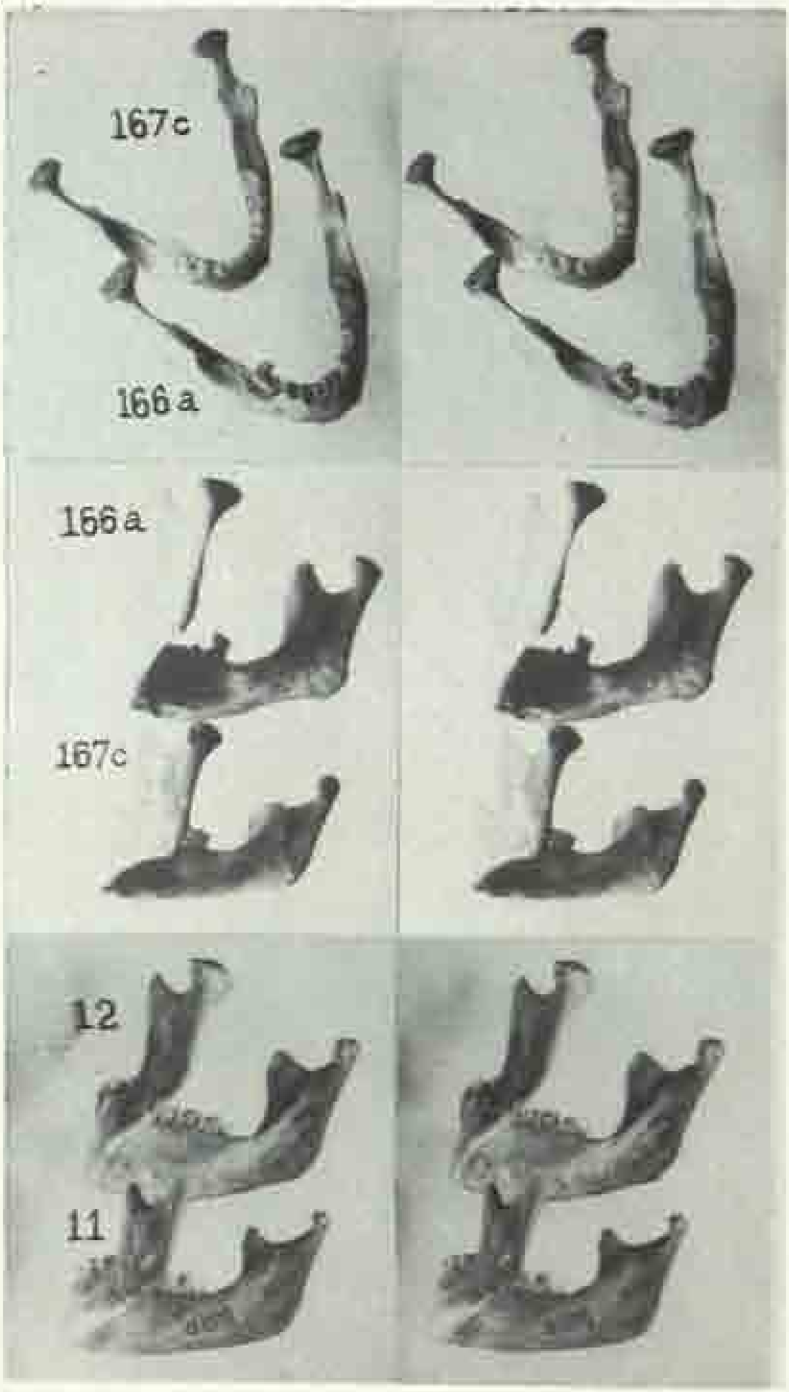
Västerhus.

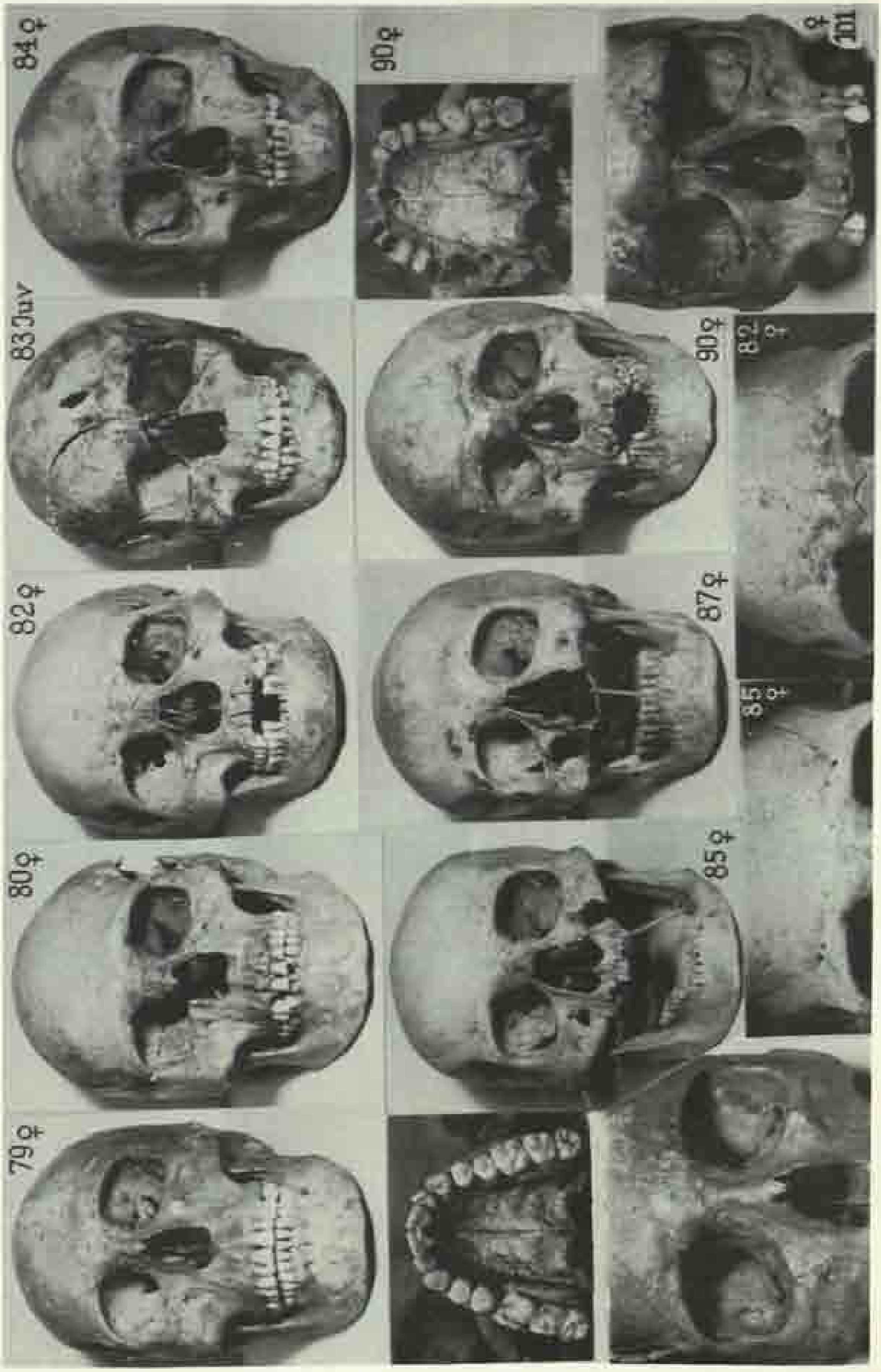
Three-Dimensional Photographs of Clavicles of Individuals Buried South of the Nave and North of the Tower (text see chapter VII: J).



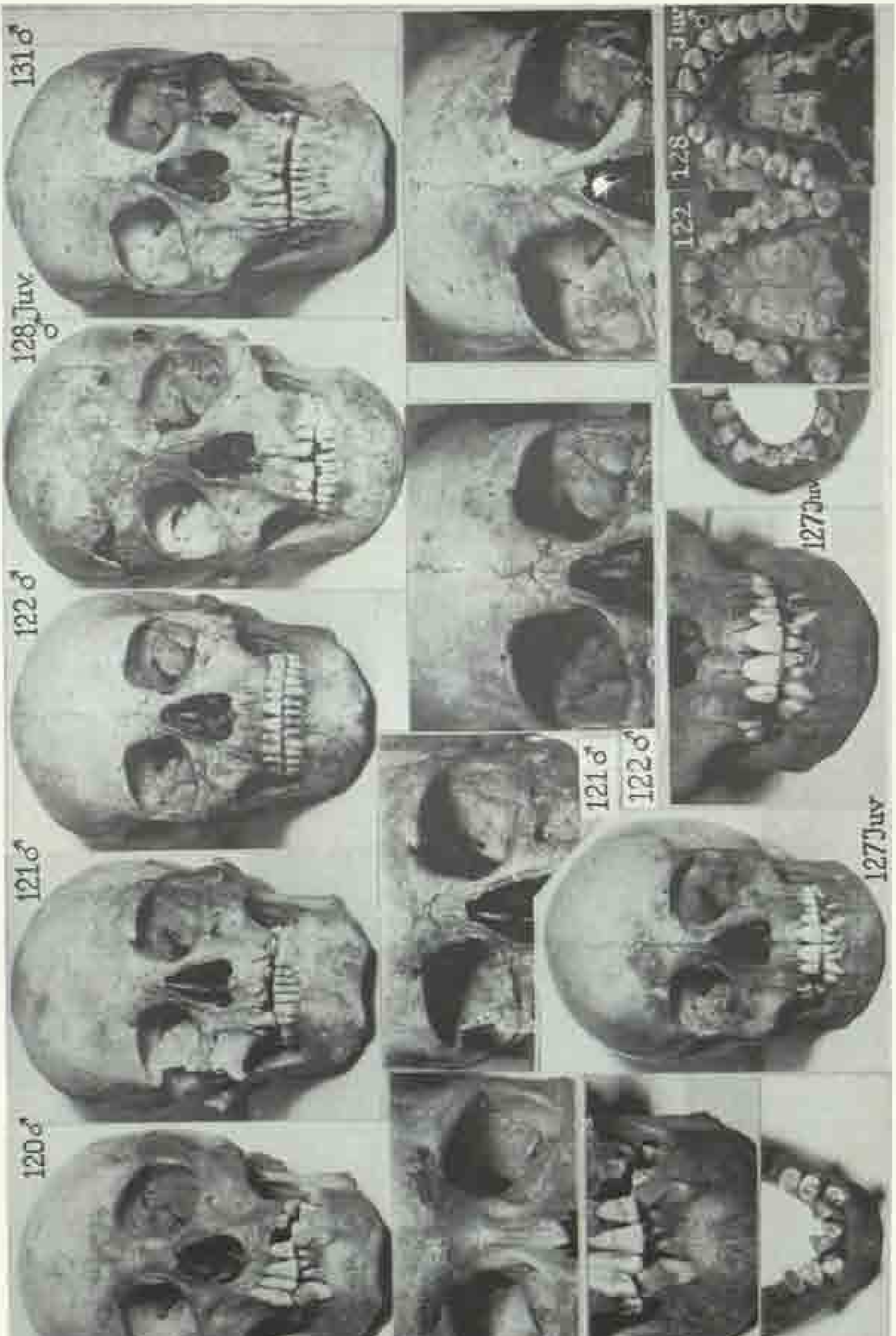
Västerhus.

Three-Dimensional Photographs of Mandibles of Individuals South of the Nave and North of the Tower (text see chapter VII: J)





Västerhus: Photographs of a Series of Female Skulls NE of the Chapel Ruin.



Västerhus. Photographs of a Series of Male Skulls SE of the Chapel Ruin.

Västerhus: Disc Degenerations in the Lumbar Spine.

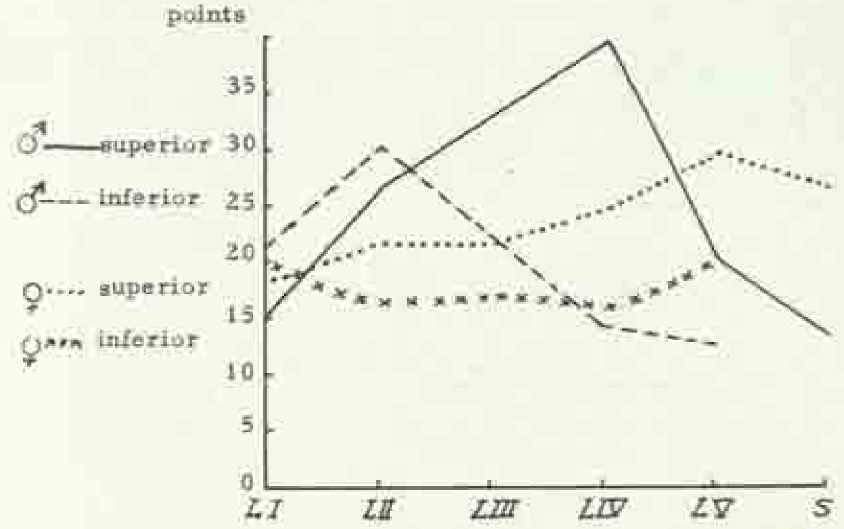


Diagram A.

Total of points (0 - 3) from all the osteophytes on the superior and inferior surfaces of 39 lumbar spines showing disc degeneration changes.

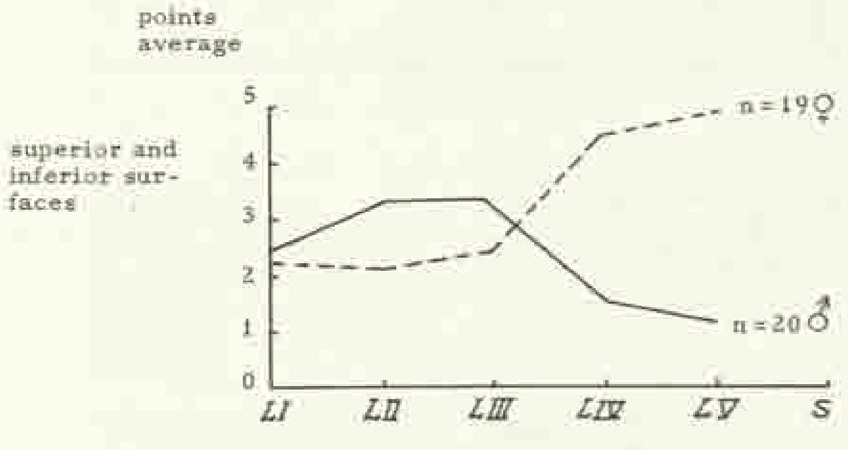
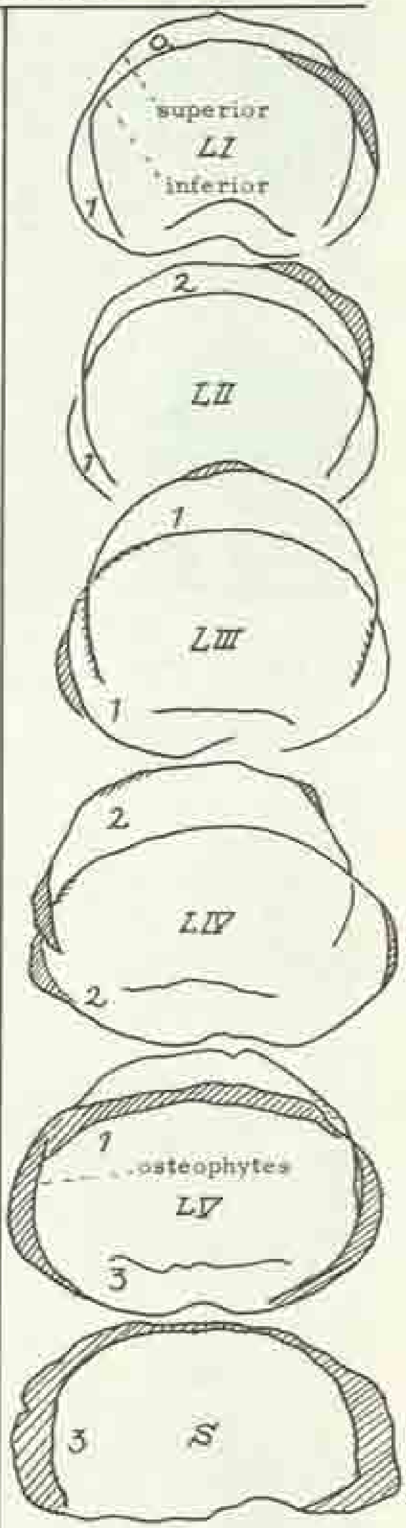


Diagram B.

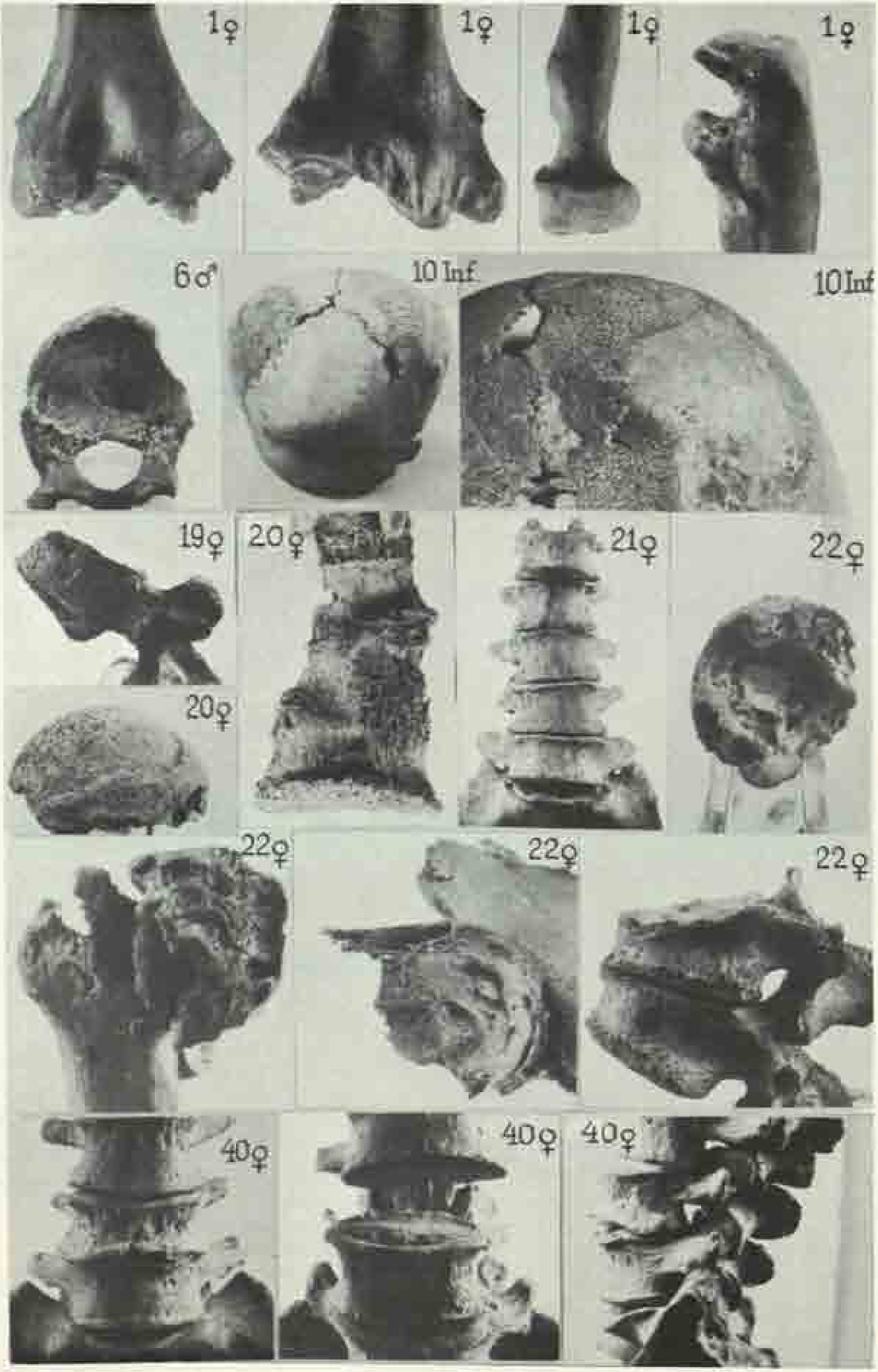
Average of points on the combined osteophytic formations on 39 lumbar spines showing disc degeneration changes.



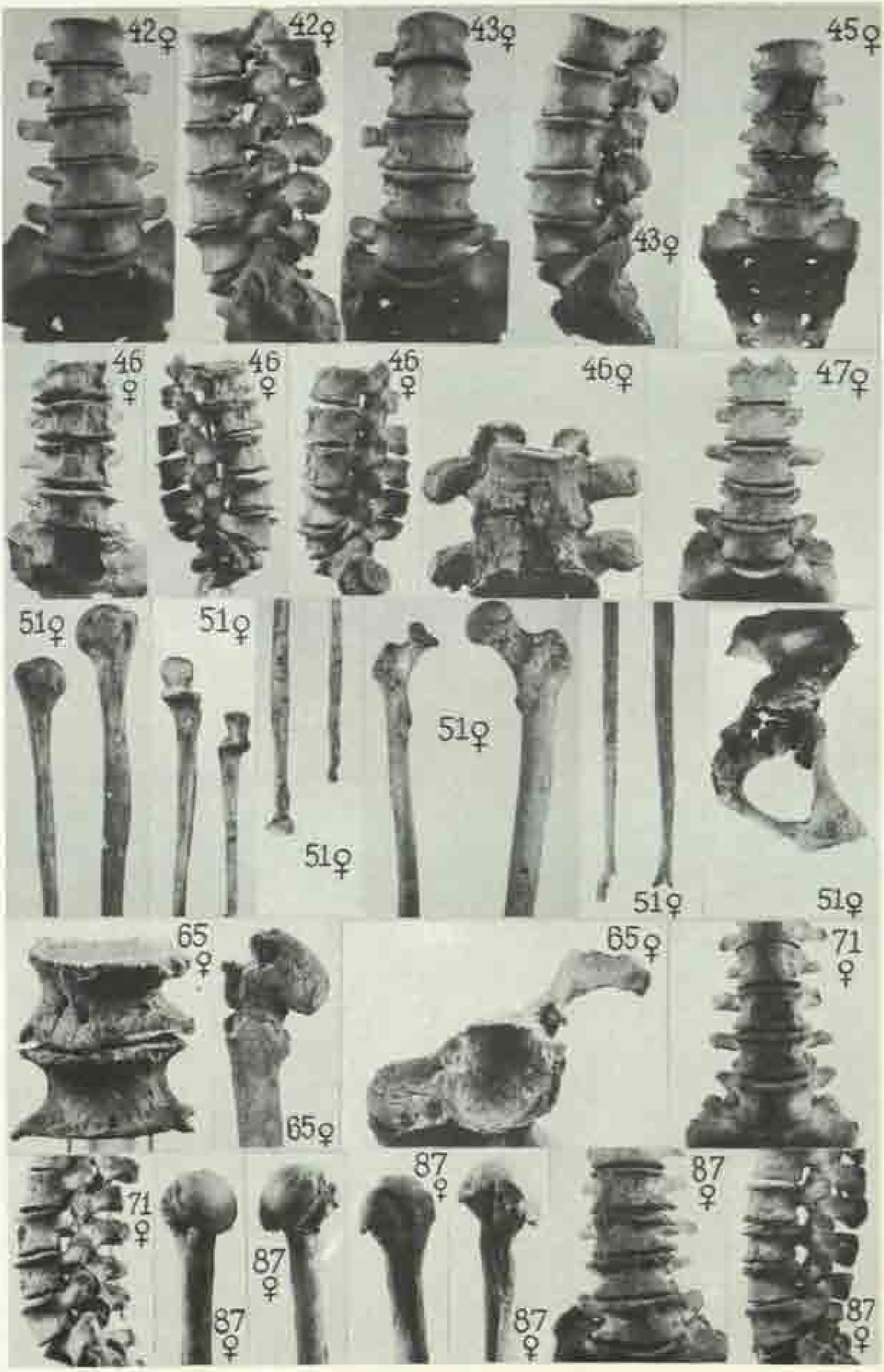
C.

Example of assessment of points given to osteophytic areas on a lumbar spine with disc degeneration changes. (Grave No. 21, adult ♀)

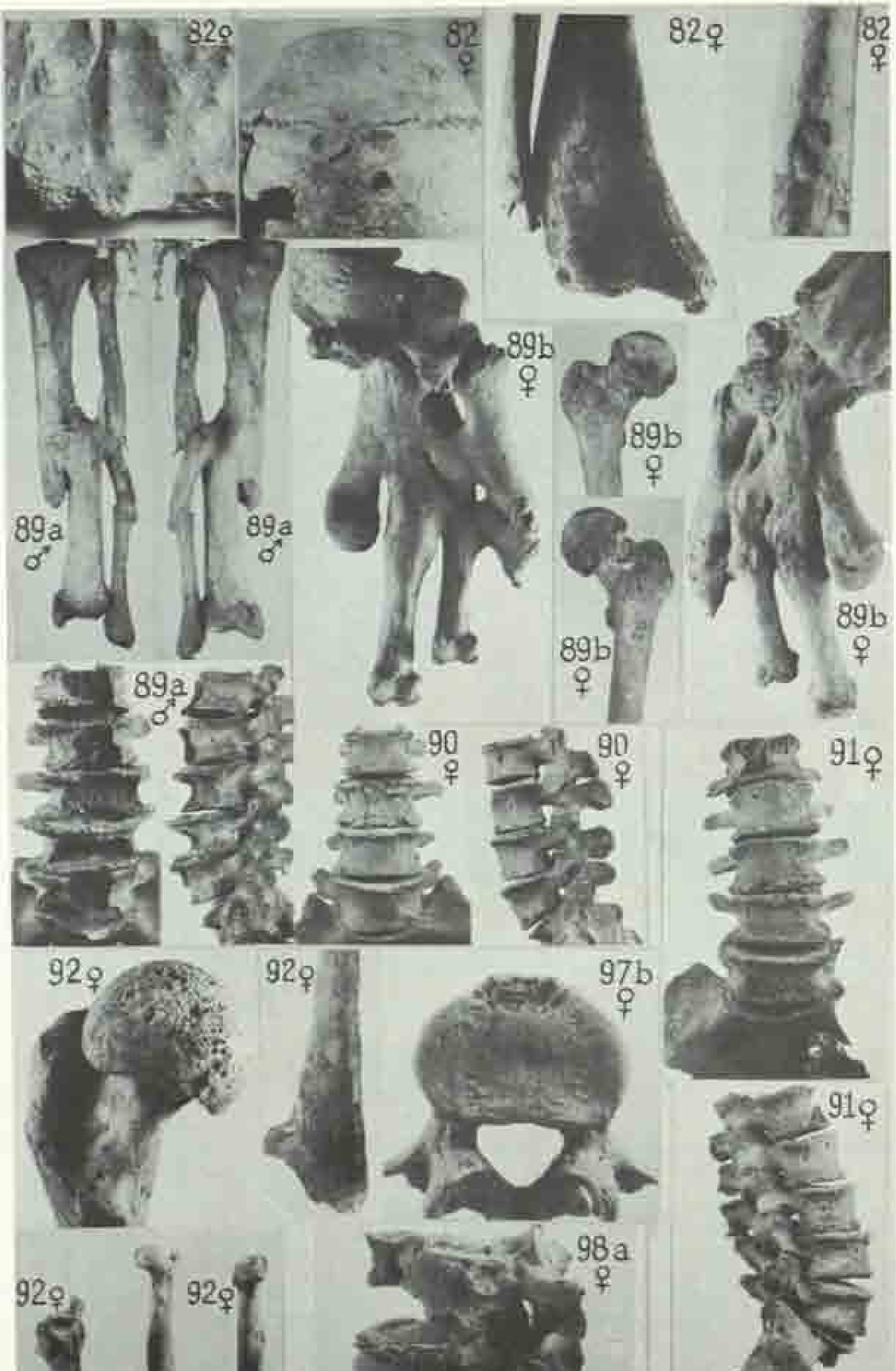
Västerhus: Photographs Belonging to Chapter VIII.



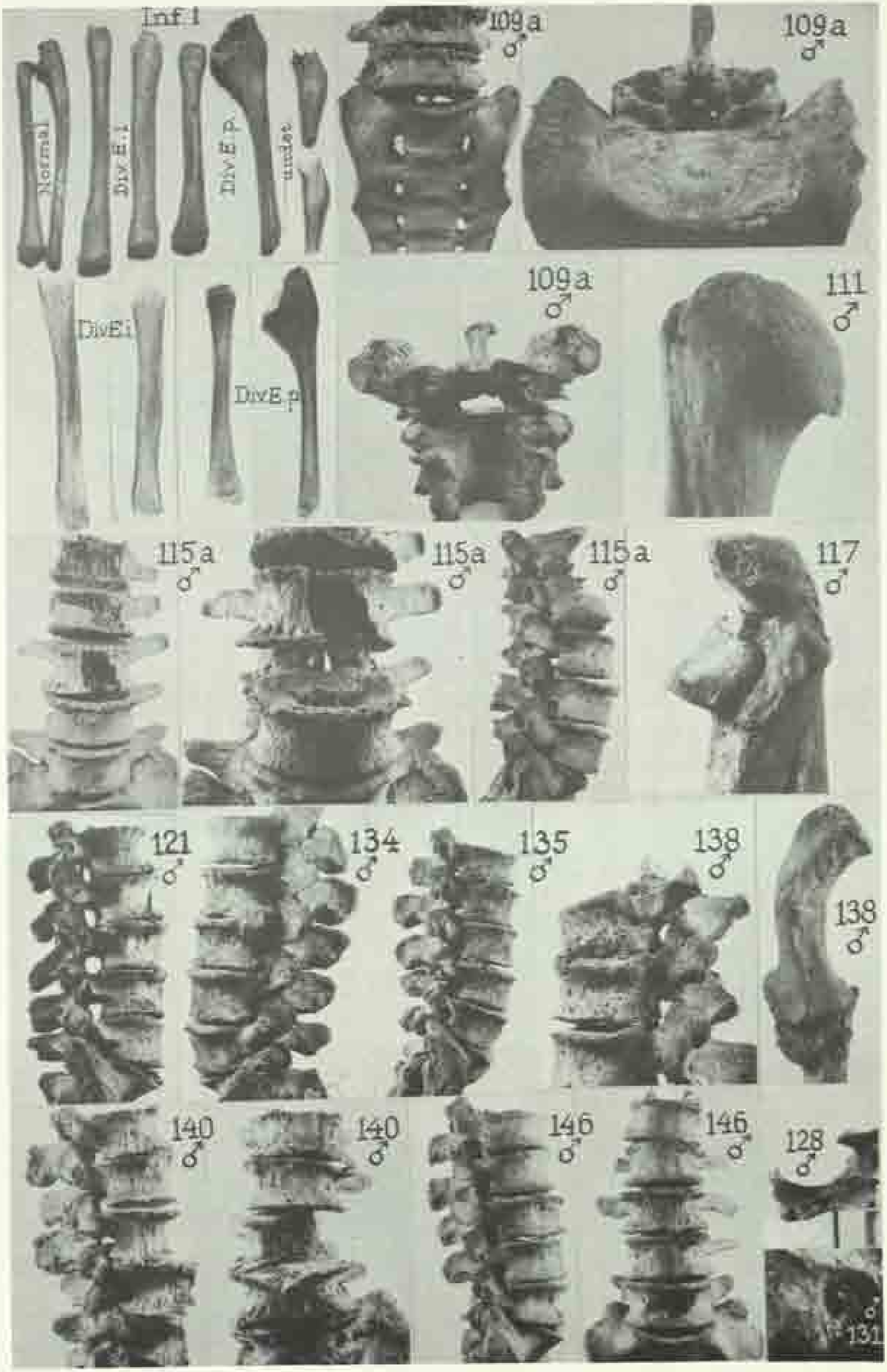
Västerhus · Photographs Belonging to Chapter VIII.

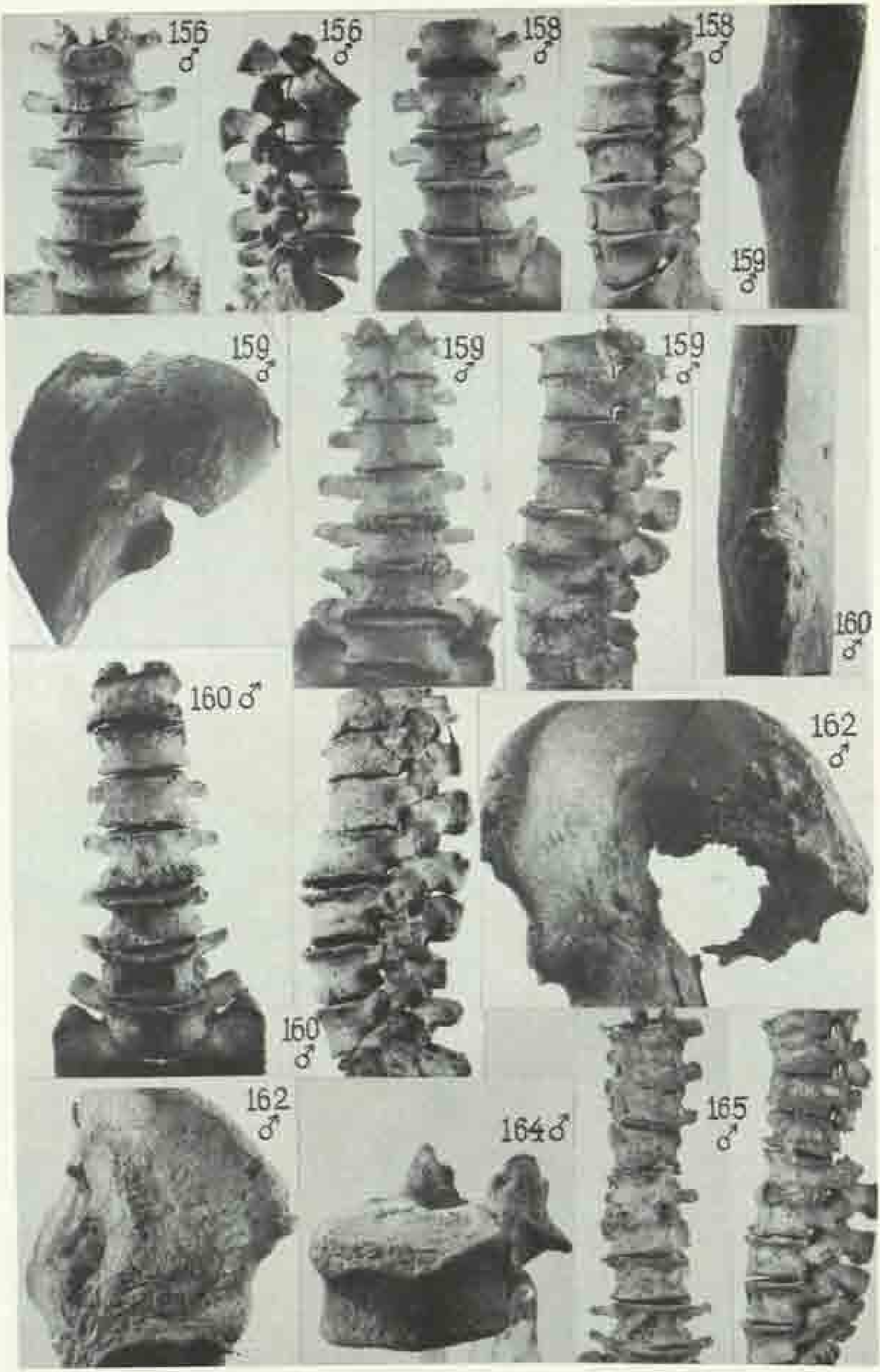


Vásterhus: Photographs Belonging to Chapter VIII.



Västerhus: Photographs Belonging to Chapter VIII.

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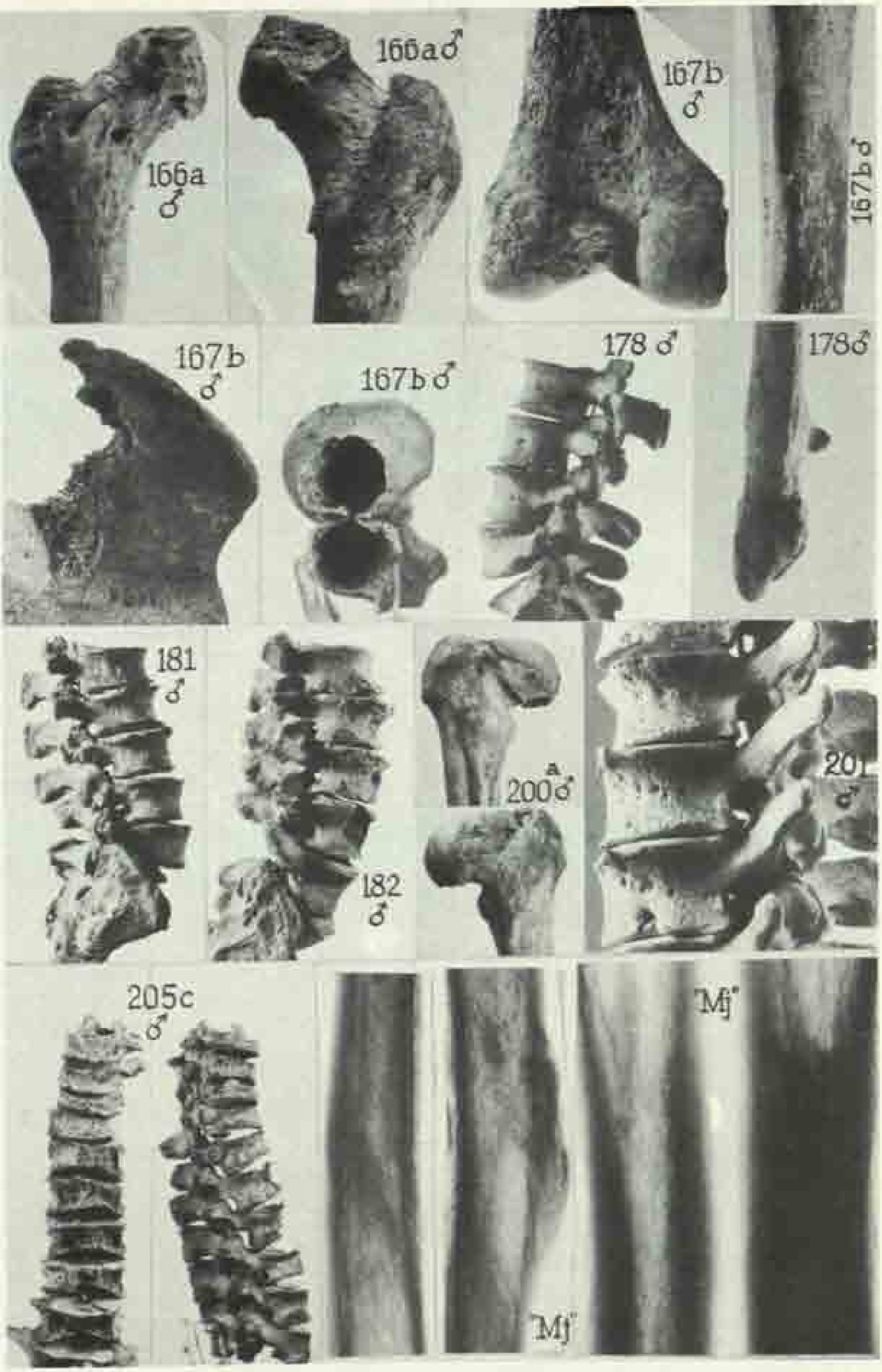

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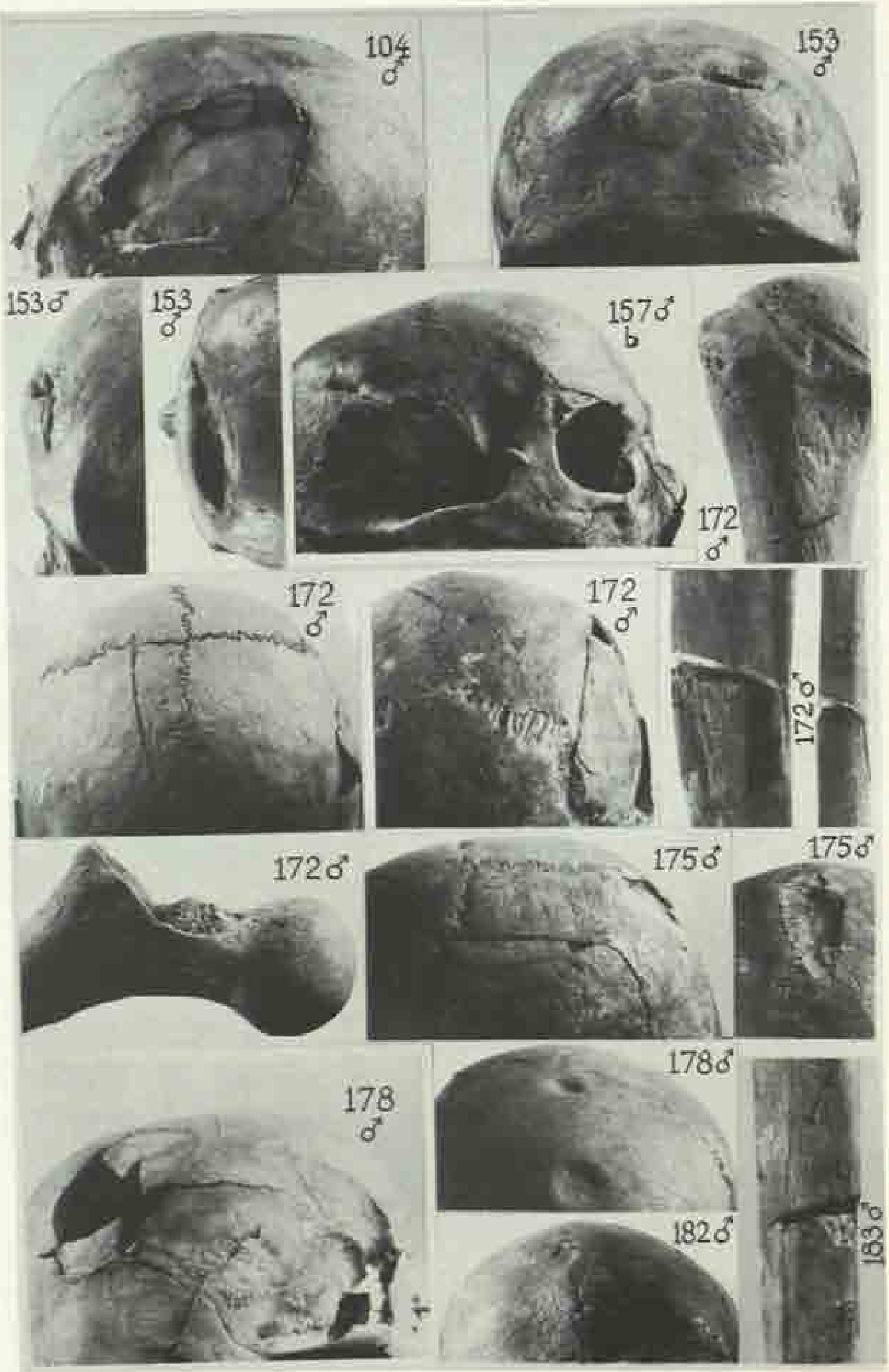

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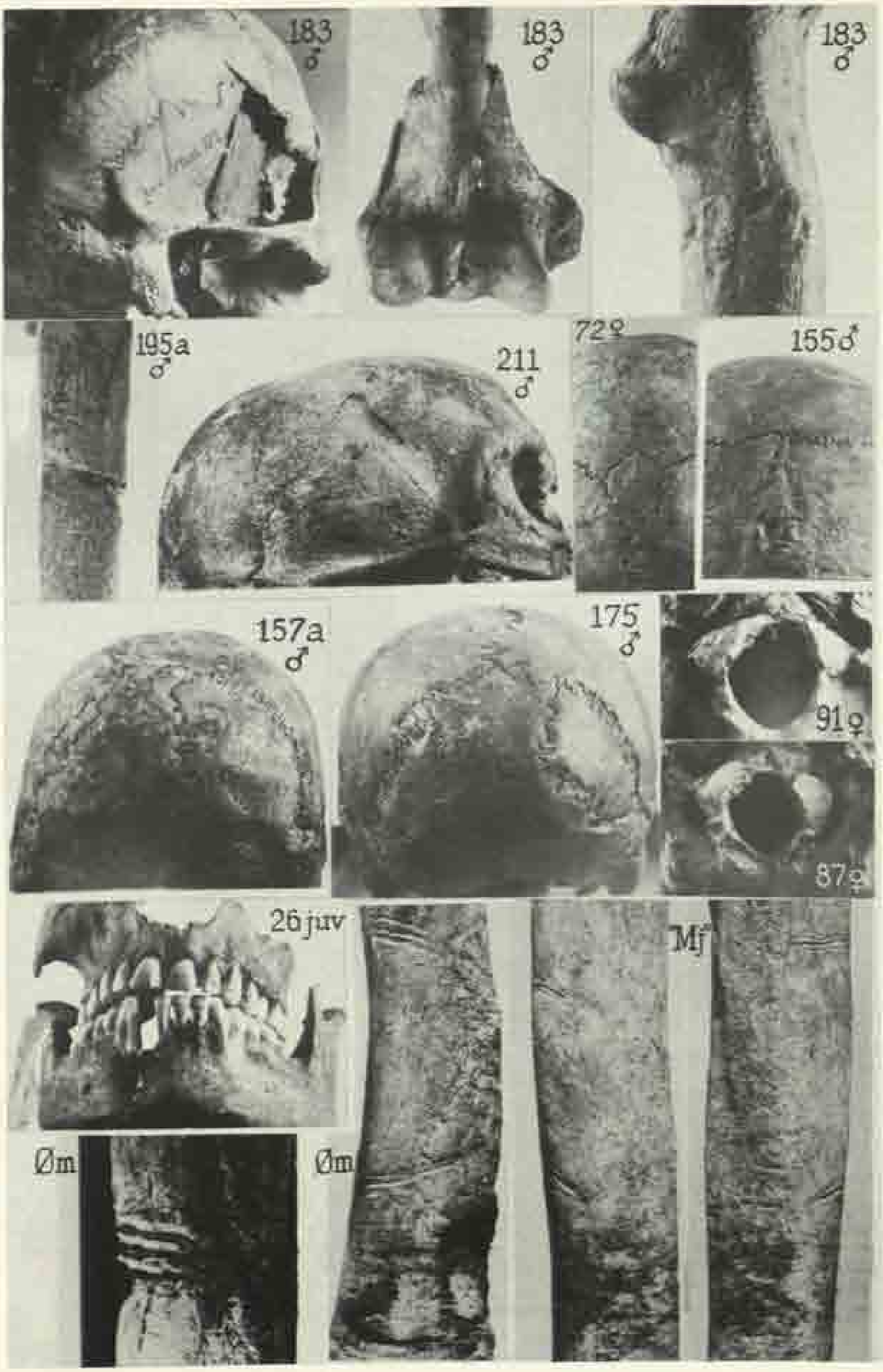

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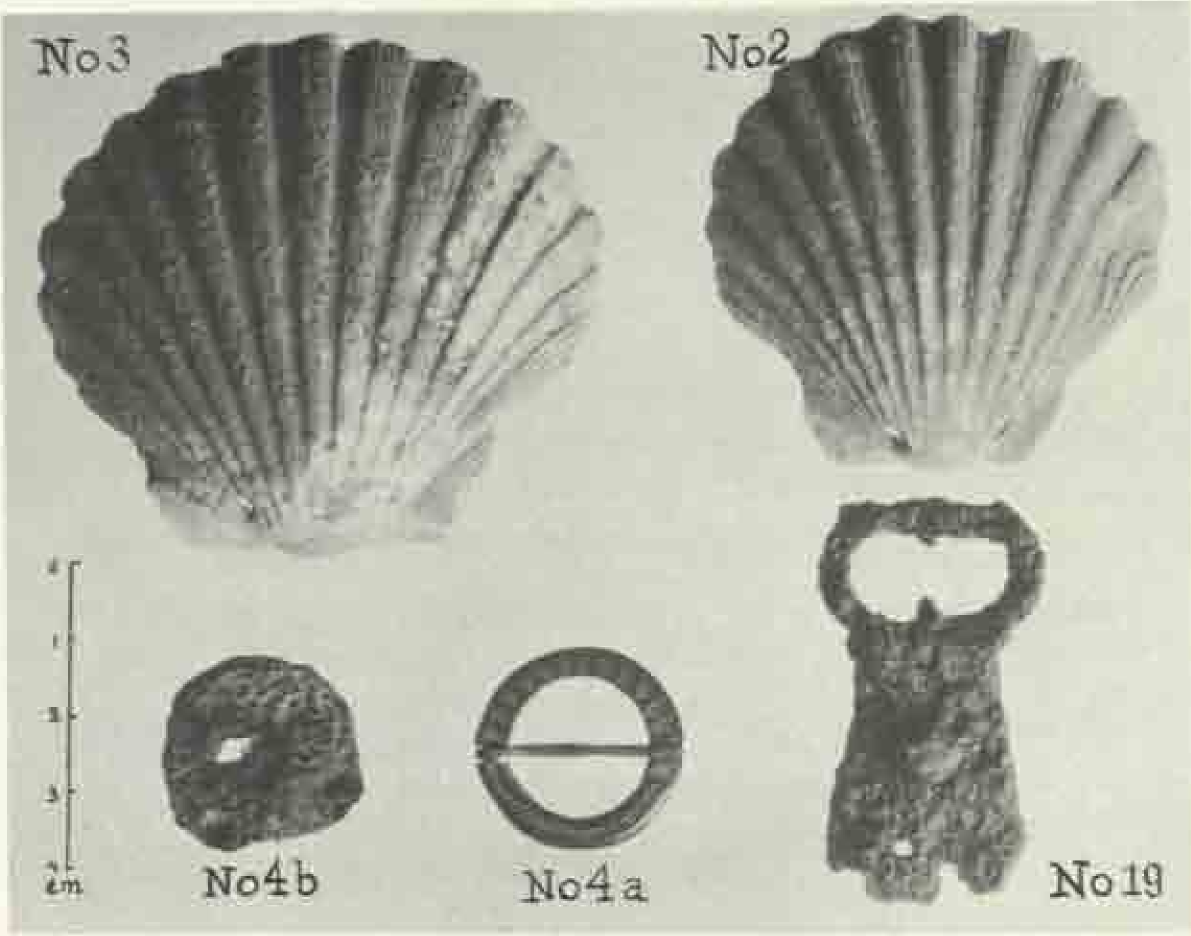
The Finds (to chapter IX)

Västerhus.

The Finds (continued)



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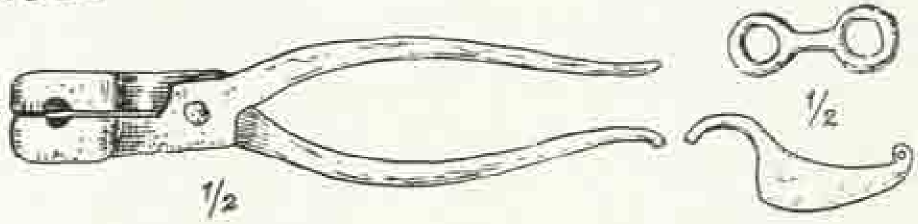
The Finds (continued)

No 10



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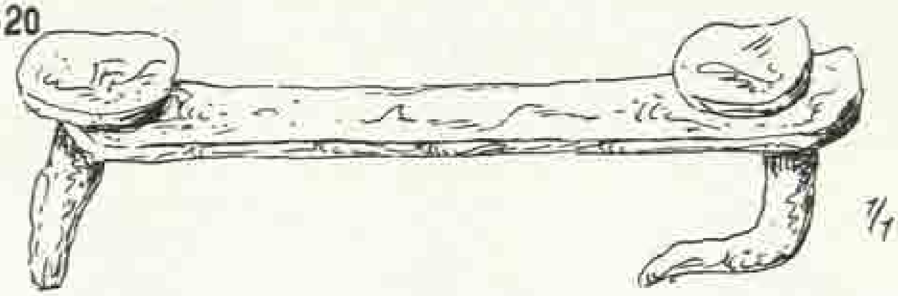


Excerpts Taken from Vol. I of
"Norges Gamle Love indtil 1387"

A. The Early Gulathings-Law

Bader mælte þetta um kirkiur.

Þat er nu þvi nest at ver skolom kirkium þeim ollom upphallda. oc kristnum dome er Olafr hinn helge oc Grimkell biscop sette a Mostrar[8] þingi. oc þeim ollom er sidan varo gorvar. En kirkia er ein[9] i fylki hveriu er ver kollom hofudkirkiu er vér eigum aller fylkismenn gerd upp at hallda. En ef su kirkia brotnar oc falla hornstaver. þa eigum vér timbri a tuft at koma firi .xii. manadr. En ef eigi kømr þa scolom ver bøta aller fylkismenn .xv. morcom. þat fe a halft konongr várr. en halft a biscop. En ef þat firinemasc færre menn. firinemsc fiordongr manna æda allongr. þa scal skipta ór þvi fe sem þeir eigu manntal til. En ef þat firinemasc einka menn. þa scolo þeir bøta .iii. aurum firi tre hvert er til þarf at hava. oc fa tre þo at sidarr se. En eyri firi malomal hvern. Eyri firi nagla hvern er a er vant. Nu er kirkia gor. 10

Enn[1] bader mælte þetta.

11 Nu scal gard um gera aller fylkismenn. þa scal biscop. æda hans ærendreke gera stefnu til þess oc eindaga at gardr se gorr. þa er vel ef gorr er. En ef eigi er gorr. oc stendr kirkia gardlaus. xii. manade. þa scolo aller fylkismenn bøta firi þat morcom. iij. biscope. En ef þat firinemasc einca menn. þa scal bøta aurum .iij. biscope. firi tre hvert er til þarf oc fa[2] tre [þo at[3] sidarr se. oc gera gard. Nu er kirkia gór oc gardr um. þa scal vixlu a kaupa at biscope. aller fylkismenn. þriggia natta vist. med .xxx. manna.

Oc sva þetta. um kirkiugerd.

12 Nu ero kirkiur allar adrar. er gerd scal upphallda. fiordongs kirkiur. oc allongs kirkiur. heradrs kirkiur oc høgendis kirkiur. þeim kirkium ollom scal upp hallda. oc eigi tuft eyda. En ef kirkia brotnar oc falla hornstaver. þa scolo þeir menn er þa kirkiu eigu lata timbr a tuft koma fyrr en .xii. manader se gegner. En ef eigi kømr. þa scolo þeir er þa[4] kirkiu eigu bøta firi þat[5] morcom .iij. biscope. oc fa til oc gera kirkiu þo at sidarr se. En ef þat firinemasc einca menn. þa scal bøta firi þat aurum .iij. biscope firi tre hvert er til þarf at hava. oc fa tre þo at sidarr se. oc gera kirkiu oc hvergi tuft eyda. En ef gera einca menn kirkiu. gerir lendr madr æda boande. æda hverr sem kirkiu gerir. þa scal þeirri upp hallda oc alldrigin tuft eyda. En ef kirkia brotnar oc falla hornstaver. þa scal hann[6] timbri a tuft koma fyrr en .xii. manadr se gegner. en ef eigi kømr þa scal bøta firi þat morcom .iij. biscope. oc fa til oc gera enn kirkiu. En ef hann gerir eigi oc letr enn .xii. manade standa tuft eyda. þa scal han enn bøta firi þat morcom .iij. biscope. En ef hann letr liggia vetr .iij. tuft eyda.[7] þa hever hann firigort iordunni er kirkian var a gorr.[8] þa a konongr iordena oc scal hann odrlæsc med þvi at hava kirkiuna gorva a fystum .xii. manadom. En ef hann gerir eigi sva. þa scal boande taca aptr iord sina. oc gera enn kirkiu a. En ef boande hever eigi gort a þeim .xii. manadom. þa a konongr iordena. oc koma alldrigi undir boanda sidan.

Gulathings-Law (continued)

Um kirkiu gard.

13 Nu ſcal gard um gera. þeir menn er þeirri kirkiu eigu upp at hallda. oc hava gort a .xii. manadom. En eꝼ eigi er gorr a .xii. manadom. þa ſcal bœta aurum .xii. biſcope. En eꝼ þat ꝼiri nemaſc einka menn. þa ſcal bœta aurum .iij. ꝼiri tre hvert. er til þarꝼ at hava. oc ꝼa tre þo at ſidarr ſe. Nu ero kirkiur allar gorvar oc gardr um.

Um kirkiu vigslu.

Nu ſcal vigslu a kaupa at biſcope. Hvervitna þeſſ er iord er vigd. en kirkia 14 uvigd þa ſcal aurum .xii. at biſcope kaupa. En hvervitna þeſſ er bæde er uvigt iord oc kirkia. þa ſcal vigslu a kaupa at biſcope .iij. morcom. þriggia natta viſt med .xv. menn. Nu ero kirkiur allar gorvar oc vigsla a keypt.[1]

Um grǫft i kirkiugarde.

Þat er nu þvi neſt at mann hvern ſcal til kirkiu ꝼora er daudr verdr. oc 23 grava i iord helga. nema udada menn. drottens ſvica.[8] oc mordvarga. trygggrova. oc þiova. oc þa menn er ſialver ſpilla ond ſinni. En þa menn er nu talda er. ſcal grava i ꝼlœdar male. þar ſem ſærr[9] mœteſc oc grœn torva. En lik ſcal eigi inni

[1]) þetta — B. [2]) en — B. [3]) [mgl. B. [4]) Her ophører 4de Side af Brudst. Ca.
[5]) at — B. [6]) preſte radu — B. [7]) leg — B. [8]) ſvicara — B. [9]) ꝼiǫð — B.

B. The Early Frostathings-Law II.

Vm fylkis kirkiu upp gerd.

vij. Bondr ſkolu ꝼylkis kirkiu lata gera ꝼylkis mænn alla[4] oc haꝼe gort a 7 .xij. manadom eda giallde .xv. merkr biſkupi eꝼ aꝼ tre er. En eꝼ mænn uilia gera kirkiu or ſteini þa ſkolu þeir rada er bætr uilia oc uittraſter[5] eru eꝼ ſumir uilia eigi oc ſkil þa a. En eꝼ mænn ꝼallazt at þui þa liggr[6] ſlikt uidr ſem þeir ꝼellezt[7] at tre kirkiu gerd. En eꝼ ꝼiordungs mænn lata ꝼallazt eda þridiungs.[8] giallde ſlikt ſem tala rennr til or .xv. morkum. En eꝼ gerdar mænn lata[9] ꝼallazt giallde .vj. aura. En þo at eitt tre ꝼallezt þa uardar þat þeim manni er þat tre[10] ſkal ꝼa .vj. aura. oc ſua laſſ huært þar ſem[11] [ſtein kirkia gerezt[12] oc ꝼæe þat til[13] iaꝼnt oc[14] adr. En ꝼylkis mænn aller ſkolu kirkiu garde upp hallda eda giallda[15] .iij. merkr. en .vj. aura eꝼ oll gerd ꝼelzt[16] en eyri ꝼirir tre oc ꝼæe til ſem adr. En eꝼ[17] gerd ꝼellzt eda ein madr lætr ꝼallazt þa liggia uidr .iij. aurar at nyggorꝼre kirkiu. En ſidan ſkolu bondr brœda kirkiu ſina ual[18] a .iij. uettrum huærium.

Vm kirkiu uigslu oc klokna kaup.[19]

viij. Ueitſlu ſkal bua ſæmeliga mote biſkupi ſa er kirkiu lætr uigia oc ſkal ſa ꝼa 8 er uigia lætr .xij. kærti oc .xij. alna langt lerept eda uadmal.[20] klocko ſkolu oc[21] aller ꝼylkis mænn kaupa til kirkiu ſinnar at .xij. aurum.[22] En eꝼ eigi er keypt a .xij. manadom þa eru þeir ſekir .iij. morkum uidr biſkup. En eꝼ gerd ꝼellzt eda einn madr lætr ꝼallazt giallde .iij. aura biſkupi.

C. The Early Borgarthings-Ecclesiastical Law I.

Um kirkiugardz nidrfall oc um greftir manna.[41]

9 Gardr ſkall vera um kirkiu hueria. ef han værdr at falle þa liggia vid mærkr .iij. vid allan .vi. aurar vid fiordong huern. þo at æit lid ſe oped[42] a fiordonge. þa er ſem allr fiordongr ſe nidrfallen. Kirkiu garde er ſkipt i fiordonga til græftar. ſkal graua lenda men auſtan at kirkiu oc i lande ſunnan vndir upſar[1] dropa. ef þæir æigu æigi lut i kirkiugarde þa ſkulu þæir liggia i bonda legho. þa ſkall graua haulda oc haulda born.[2] þa ſkal graua løyſingia oc løyſingia born. þui neſt ſkal graua frials giafa oc þæirra born.[3] neſt kirkiu garde ſkall graua man manna.[4] oc menn þæir[5] er rekner ero a ſiouarſtrondu oc hava har ſkurdi norœna. Græfr man[6] i frials giafa legho[7] ſæckr aurum .vi. Græfr frialsgiafa i løyſingia lego bœte[8] .xij. aurum. Græfr løyſingia i haulz[9] lego [bœte morkum .iij. firer.[10] En ef madr græfr lik upp þætt er hold eda har er a. þa er han [ſæir annat nidr. þær ligia vid merkr .iij.[11] Græfr þætt upp en[12] lidum[13] loder ſaman. [þær liggia vid aurar .xij.[14] Bæin þau oll er upp græfr[15] þau ſkal læggia oll neſt kiſtu nidr. Oll þau er uppi liggia[16] oc ſol nær[17] bœte .vi. aurum firer bæin huert. Nu ef madr kenner naonga ſin þæn er upp er graven. þa æigu ærfingiar ſæckt þa er uidr liggr. En ef ængi kennez vidr[18] þa a biſcup ſækt þa alla[19] er uidr liggr. fællr aldri ſækt handa milli.

D. The Early Borgarthings-Ecclesiastical Law III.

Um uphalld høgenda kyrkna.

12 En ef heradz kirkia at falle verdr. þa ſkall gera till heraz monnum ſtæfnu .xij. manada freſt. at þæir hafue gorfua heradz kirkiu ſina. En ef æigi er gor i þa ſtæfnu. ſæckir aller heradz menn .iij. morkum. þa ſkall gera þæim adra .xij. manadr ſtæfnu. en ef æigi er þa en gor. ſæckir .iij. morkum. Nu ſkall gera þæim hina .iij. .xij. manadr ſtæfnu. en ef æigi er þa gor. ſæckir .iij. morkum. þa ero .ix. merkr. þa ſkall gera hina .iiij. manadar ſtæfnu. En þa er æigi gor. þa er huær bonde ſæckr .iij. morkum er i þæirri kirkiu ſokn ero. En ef madr gerer ſer høgenda kirkiu a iordu ſinni ſialfs. fællr ſu nidr. þa ſkall gera ſlikar ſtæfnur till uppgiærdar ſem till heradz kirkiu. ſæckr .iij. morkum firir æina ſtæfnu. En .vj. firir tuær. en .ix. morkum firir .iij. gera ſkall honum hina .iiij. .xij. manadr ſtæfnu. En ef æigi er þa up gor. þa a konungr bø þen en bonde ecki i. oc hallde konungr up kirkiu giærd. En ef ſu kirkia at falle verdr. er konungr let gera. þa ſkall bonde ſa er iord atte. ſtæfna þing. eda ærfingi hans. oc bioda kirkiu giærd up at hallda. þa a bonde ſialfuær iord ſina. þet hæitir after lauſnar iord med kirkiu giærd. En ef madr gerer kirkiu a annars manz iordu. verdr ſu at nidr falle. hafue landz drotten ſlikar ſtæfnur till. till uppgiærdr ſem till heradz kirkiu. oc ſlikar ſæctir ſem fyr ſægir. En ef hon er æigi þa gor. þa ſkall han fara utlægr. till þeſſ er han a koſt. at gera kirkiu up.

Borgarthings-Ecclesiastical Law III (continued)

Um kirkiu gard oc graftar stadr.

13 Gardr skall vera om kirkiu hueria. En ef hon at falle uerdr. þa liggia .iij. merkr vidr allan. En .vj. aurar vidr fiordong huern. oc sua þo at eit lid se a. fiordonge. nidr fallet. þa er sem allr fiordongr se nidr fallen. a kirkiu garde. kirkiu garde er skipt i fiordonga till griæftar. Skall grafua lænda menn austan at kirkiu oc i landsudr undir ufa[1] dropa. ef þeir eigu lut i kirkiu giærd. En ef þeir eigu eigi lut i kirkiu giærd. þa skullu þeir liggia i bonda legho. þa skall grafua hauldz-men. oc þeira born. þa skall grafa lo̧ysingia oc þeira born. En nest kirkiu garde. þa skall grafua hion manz. oc þa menn er rekner ero at siofuar strandu. oc hafua harskurdi norona. En ef madr lægger man i frialsgiæfua lego sekr .vj. aurum. En ef madr græfuer frialsgiæfua i lo̧ysinga lego. sekr .xij. aurum. Græfuer lo̧ysingia i hauldmanz lego sekr .iij. morkum. En ef madr græfuer þet lik up. er loder limum saman. sekr .xij. aurum.

Jvfr. Cap. 12. I. 8. II. 17. *Cap. 13.* I. 9. II. 18.

E. The Early Eidsivathings-Ecclesiastical-Law.

48 Tolf alnar ero at legr kaupi. at lænndom manne. eda kono hans. niu alnar. at hans syni. eda dottor. til þess er þau ero fiortug. sidan tolf[2] alnar. at legrkaupi. Sua oc at haulldz manne. Er hann er sun lo̧ysingia. þa ero alnar .iiij. at legr kaupi en alnar .iij. eftir lo̧ysingia. ufrialsan pening uegen. firi anaudgan. annan. firi huærn mann þeirra er .iij. uettra ero. eda þrim uettrom ællri. þa er fullt legr kaup firi. En firi þann er yngri er pening uegen. Væd skal læggia preste halfu meira. en legr kaup er til. oc hafa lo̧yst ut at siaunnd. ælligr er foruædia. heimti prestr at tuaro skulld sina. En huær manna. sem gort hefer alr tiunnd sina. oc houud tiunnd. þeir eigu[1] at giallda legrkaup. En ef bod komr preste at fara til er lik liggr inni oc uil hann æi til fara. oc ganga ænger naudsyniar til. þa er hann af þui legr kaupi. er hann skilldi þar hafa. take sa prestr er æruadi dryggdi til. þat ero naudsyniar. ef hann liggr siukr. eda ser. þa skal hann hafa halft. en halft sa er æruad hefer til. En ef madr fær or herade. eda or þridiungi sinum. oc uerdr i adrum þridiungi daudr. þa skal sa hafa legr kaup. er syngir iuir liki hans. oc uigir grooft. En hinn halft. er uigir mat oc mungat hans. þar sem hann uar heims uistum.

No skal preste bioda. oc kono hans til erfis. oc manne med þeim. sitia skal 49
hann i annduege oc kona hans hia honum. En ef erfi ero þriu. senn i sokn hans. þa skal hann koma i alla stade þriu. oc uigi mat oc mungat. oc uere at þui mungate er hellzst uil hann. nema sua langt se i millim. eda bere naudsyniar til. at hann ma æi komazst i alla stade.

Lænndan mann. skal grafa nest kirkiu. oc lænndra manna born. oc lænnz mannz kono. þui nest haulda menn. oc konor þeirra. oc born. þa skal grafa leysingia. oc þeirra born. þui nest skal grafa frialsgiafa oc þeirra born. En nest kirkiu garde. skal grafa manna mann. oc ambottor. karlmenn skulu liggia firi sunnan kirkiu en konor firi nordan. sua skal menn nidr grafa at anner grafe eigi up. medan lidum loder samen. oc fylgir holld. eda har. En ef up er grafet. þa liggia uid aurar .vi. En sua skal nidr grafa. at alen se heill iurdar firi ouan kistu. En ef skemra grefr nidr. þa liggia uid aurar .vi. En engi a at grafa i annars legr. nema hann uili sæktaz at laga rette uid erfingia hins dauda. En ef madr tekr mannz bein oc kastar or kirkiu garde. þa er hann sekr uid biscup .vi. aurum. þa skal alla grafa i kirkiu garde. er hæfer ero. oc alla þa er ei ero ubota menn. Madr sa er seter[2] sik sialfr oc idraz hann uerks sins. oc uerdr þat uitnis fat. oc gengr hann til scrifta. þa er hann grefr i kirkiu garde. ef hann deyr af þui sare. En ef hann serrer sik sialfr i vili oc idraz hann ei. þa er hann ei grefr i kirkiu garde. oc ei gridnidingar. tryggrofar. drottens suikarar. mord uargar. brenno uargar. þiofr domdr. flugu menn. openberer rans menn. oc bandsættir menn. oc þeir sem i forbodom heilagrar kirkiu deya. oc þeir sem tyna ser sialfer. Sua þeir er kelia oc fremia rangan atrunad firi mannum. Sua oc openberer okr karlar. oc þeir menn. eda born er ei na skirn. firi dauda. en þesse[1] menn skal grafa i flodar male. af þui at þeir ero aller ubota menn. oc ei grefer i kirkiu garde. En ef hann er grafen. þa er hann misgrafen oc skal up grafa oc fora or kirkiu garde oc leggia a mærkr .iij. þat a biscup.

F. The Early Eidsivathings-Ecclesiastical, Anhang II.

Um kirkiu gard.

31 Gardr skal vera um kirkiu huaria. Biscups armadr skal þing stempna a vars dæghi þegar þele er or iardu. at huar gere sin luta. gildan.[17] sua at ei briote nidr ragn ne rot. liggia .vi. aurar vid lid huart. en .xij. aurar vid halfuan. en .iij. mærkr vid allan. biscups armadr skal fimt gera bondom at up se gor [kirkiu gardr.[18] ef þa er ei gor. sekir .vi. aurum vid biscup.[19]

Um hogendes kirkiur.[20]

32 En ef hogendes kirkia at falle verdr. eda brænnær up. þa skal fora timber a tuft a .xij. manadom. ok gor[21] a addrum. ok vigd a pridia. En ef ei er timbr a tuft a[22] .xij. manadom þa skal a addrum[23] fora timbr a tuft ok upgera. [En ef ei er sua gort þa skal a pridi .xij. manadom. vera up gor kirkia. ok vigd.[24] en ef

Jvfr. *Cap. 29.* l. 35. *Cap. 30.* l. 37. *Cap. 31.* l. 38. *Cap. 32.* l. 39.

þa er æi gor. þa ſkal at ꝼimt gor vera[1] ok vighd. En[2] þa er æi gor þa er bo þæim ꝼiri ꝼaret. er kirkien ſtod a. ſkulu ꝼrændr ok odals men løyſæ þa iord med gulli ok brændo ſylꝼri. ok allu laſta[3] lauſu ꝼe. bondr ſkulu til ganga ok meta iordena ſua ſem þeir þora[4] ſuæriæ at hon ſe verd. værdi ſkal þriſkipta. tækr biſcup þridiung. konongr annan en bondr þen þridiæ. En eꝼ ſa madr er oræigha er kirkiu a at gera. þa ſkal iorden[5] aꝼla ꝼanga til kirkiu up gerdr. En ſidæn ſkal iorden[6] aꝼla till vighſlu. En ſidæn ſkal han ſialꝼuer vid iardu ſinni at taka.[7] En eꝼ madr ſel vid værdi kirkiu bo ſin. ok ſkill ſer kirkiu vp at gera[8] eꝼ hon ꝼæller nidr. þa ſkal han ſua myclæ iord i væd[9] ſetiæ. ſem hin er han ſeldi. En eꝼ madr er oræigha er þeiri kirkiu a vp at[10] halda. þa huæruær kirkiæ þeget[11] ſem hon ſtændr a.

Vm leghkaup[10]

37 Tolꝼ alnar ero at[11] legkaupi a lændom manne. ok kono hans .ix. alnar at ſyni hans ok dotr. til þes er þau ero ꝼiortugh. ſidæn ſkulu vera .vij. alnar at leghkaupi. Sua ok ſaꝼ hauldbornom manne. ok kono hans. ok barnum.[12] En þæim manne ſem han[13] er løyſyngiæ ſon. þa[14] ero .iiij. alnær at legkaupi. En .iij. alnær ꝼiri løyſyngiæ. pæning vegen ꝼiri anaudgan man. En ꝼiri huarn man er .iij. vættræ er,[15] eda .iij. vættrom ældri. þer ſkal geꝼua ꝼullt leghkaup ꝼiri. en ok þau ſem yngri ero pæning vegen. Væd ſkal læggiæ preſte halꝼuu mæiræ en leghkaup er til. haue løyſt ut at ſiaund. ælægha ſe[16] ꝼoruædi. Huar þeiræ manna er gerer haꝼuut tighiund. eda akr tighiund han a æi at gera leghkaup ꝼiri ſik. En eꝼ bod koma[17] preſte at han ſkal ꝼara til liks. ok vil han æi ꝼara ok ganga engær naudſynir til. þa er han aꝼ þui leghkaupi. þet ero naudſynir hans eꝼ han liggr[18] ſiukr. eda ſar. þa ſkal han haua halꝼt leghkaup. En eꝼ madr ꝼær or herade. ok verdr þer daudr. þa ſkal ſa haua halꝼt leghkaup er ſyngir iuir liki hans. ok halꝼt ſoknar preſtr hans. ok ſkal han[19] vighiæ mat[20] ok mungat at ærꝼui hans.

Vm legar ſtad.[1]

Lændæ men[2] ſkal graua neſt kirkiu. konor þeiræ. ok born. þer neſt hauldborna 39
men. þeiræ konor. ok born. ok þa løyſingiæ. vttaſte þræle neſt kirkiu garde. ok ambottor. Sua ſkal man nidrgraꝼua. at æi graꝼue annan up þen ſem limum loder[3] ſaman. eda hold eda har er a. [4]eꝼ græꝼuer ſua.[5] ſeckr .vi. aurum vid biſcup. En ſua ſkal lik graꝼua. at alnar þykt iord ſe ꝼiri oꝼuan kiſtu. En eꝼ ſkiæmbræ græꝼuer nidr ſeckr .vi. aurum. Engi a at graꝼua i annæro ætter haugh. nema vili ſeckiaſt auundr rette vid ærꝼuingiæ hins dauda. En eꝼ madr græꝼuer manz bein vp. ok ber or kirkiu garde ſeckr .vi. aurum. vid ærꝼuingiæ. þa ſkal alla graꝼua i kirkiu garde er hæuer ero.[6] ok alla þa er æi ero vbota men.[7] Madr ſa er ſærer ſik ſialuan. ok idræꝫ værka ſinnæ. ok verdr[8] þat gort i vili. ok gengr til ſkripta. þa er han græꝼuer i kirkiu garde. eꝼ han døyr aꝼ þui ſare. En eꝼ han ſærer ſik ſialuer ok idræꝫ ædi værka ſinnæ. þa er han æi kirkiu græꝼuer.[9]

Vm vtlæga men.[10]

Gridnidingar. lyngroꝼue. hæimſoknar vargar. þioꝼuar dømddr. drottens ſuikarar. 40
morduargar. brænnu vargar. þeir ero aller obota men ok æi græꝼuer i kirkiu garde.[11] En eꝼ han er grauen þa er han misgrauen. han ſkal up graua. ok ꝼøræ or kirkiu garde. en þen er groꝼ giælde biſcupi .iij. merkr.

G. King Sverre's Ecclesiastical Law.

9 Þet er nu þui neſt at ver ſkulum kirkium allum upphalda oc criſtnum dome er hin hælgi Olaꝼr oc Grimkæll biſkup ſætti a Moſtrar þingi oc þæim allum er ſidan voro gorvar. En kirkia er æin i ꝼylki hueriu ſu er ver kallum haꝼud kirkia er ver æigum aller upp at halda ꝼylkis menn. En eꝼ ſu kirkia brotnar oc ꝼalla hornſtaꝼer þa æigum ver timbr at ꝼa ꝼyr en .xij. manoder ſe gengner. þa ſkulu ver bøta ꝼylkis menn .xv. morkum. þet ꝼe a halꝼt konongr var en halꝼt biſkup. En eꝼ þet ꝼirernemaz ꝼirre menn ꝼirernems ꝼiordongr manna. eda attongr þa ſkal ſkiꝼta or þui ꝼe ſem þeir æigu mantall til. En eꝼ þet ꝼirernemaz æinka menn þa ſkulu þeir bøta aurum þrimr ꝼirer tre huert er till þarꝼ at haꝼa oc ꝼa tre þo at ſidar ſe. eyri ꝼirer malo mat huern. eyri ꝼirer nagla huern er a er vant. [1] En eꝼ menn vilia gera ſtæinkirkiu. þa ſkulu þeir rada er bætr vilia oc villrare ero en ſumir vilia en ſumir æigi oc ſkil þa a. En eꝼ þeir ꝼallaz at þui þa liggr þæim ſlikt vid ſem þeir ꝼallez at tre kirkiu gerd .iij. aurar ꝼirer ſtæin lagh huert. en ſidan ſkulu bøndr brǽda kirkiu ſina a huerium .iij. vettrum.

Klokko ſkulu oc aller ꝼylkismenn kaupa til haꝼud kirkiu. at .xij. aurum gulꝫ. En 10
eꝼ æigi er keypt a ꝼyſtum .xij. manodom. er kirkia er gor þa ero þeir ſekir .iiij. morkum vid biſkup. En eꝼ þridiungr manna ꝼelz eda attongr eda æin madr lætr ꝼallaz. gialde .iij. aura biſkupe.

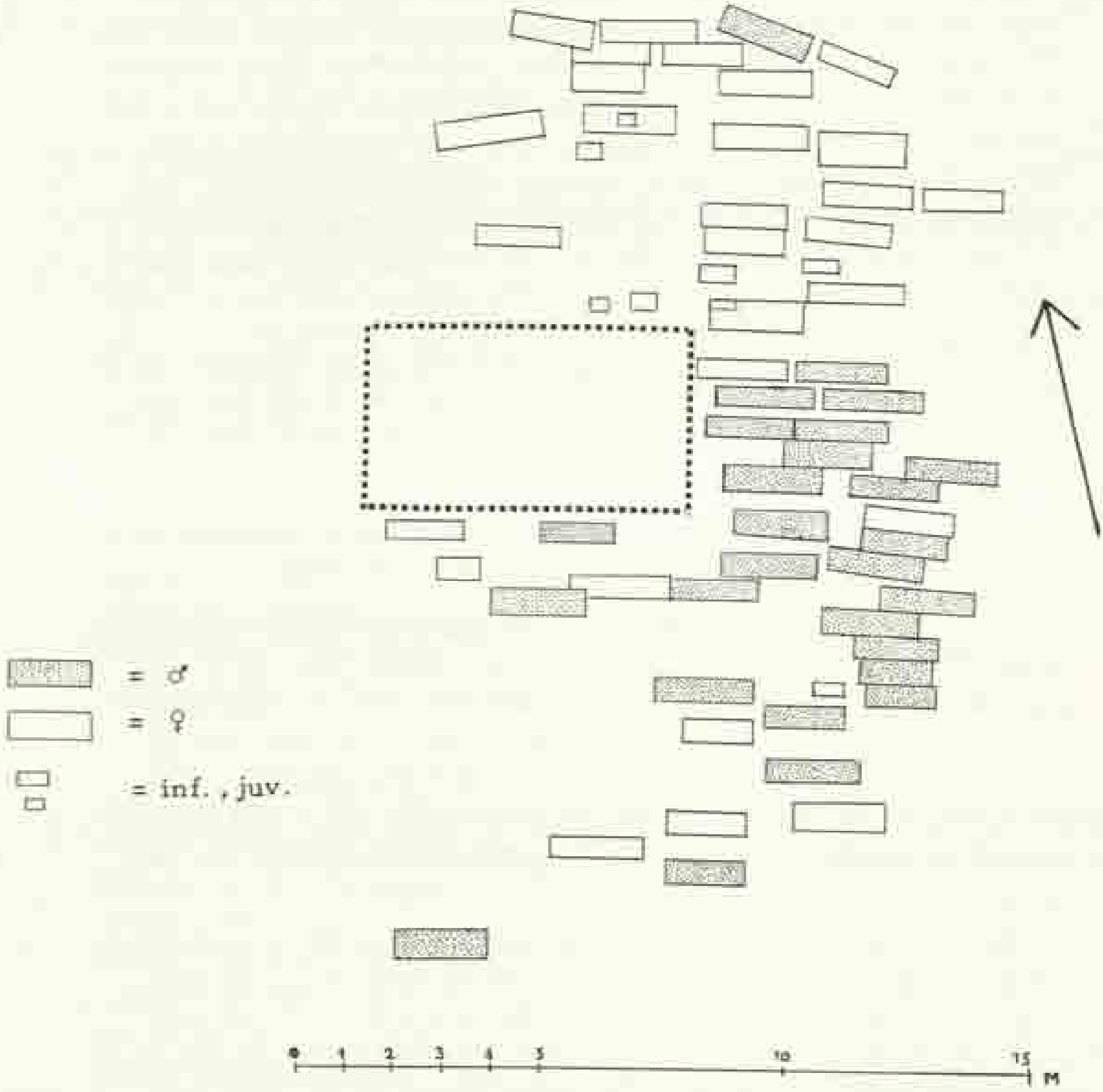
Veizlu ſkal bua ſømelega mote biſkupe ſa er kirkiu lætr vighia oc ſkal ꝼa till 11
.xij. kerti. oc .xij. alna langt vadmal eda lerept.

Nu er kirkia gor. Nu ſkal gard um gera. aller ꝼylkis menn. þa ſkal biſkup eda 12
hans armadr gera ſteꝼnu til þeſſ oc æindagha at gardr ſkal gor vera. En eꝼ æigi er gor oc ſtendr kirkia gardlaus .xij. manode. þa ſkulu aller ꝼylkis menn bøta aurum .iij. biſkupe. ꝼirer þet. En eꝼ þet ꝼirer nemaz æinka menn. þa ſkal bøta aurum .iij. biſkupe ꝼirer tre huert er till þarꝼ at haꝼa. oc ꝼa tre till oc gera gard þo at ſidar ſe. ſlikt er um griot las ſem um tre eꝼ gard ſkal aꝼ griote gera. Nu er kirkia gor oc gardr um. þa ſkulu aller ꝼylkis menn vigſlu a kaupa at biſkupe .iij. natta viſt med .xxx. manna.

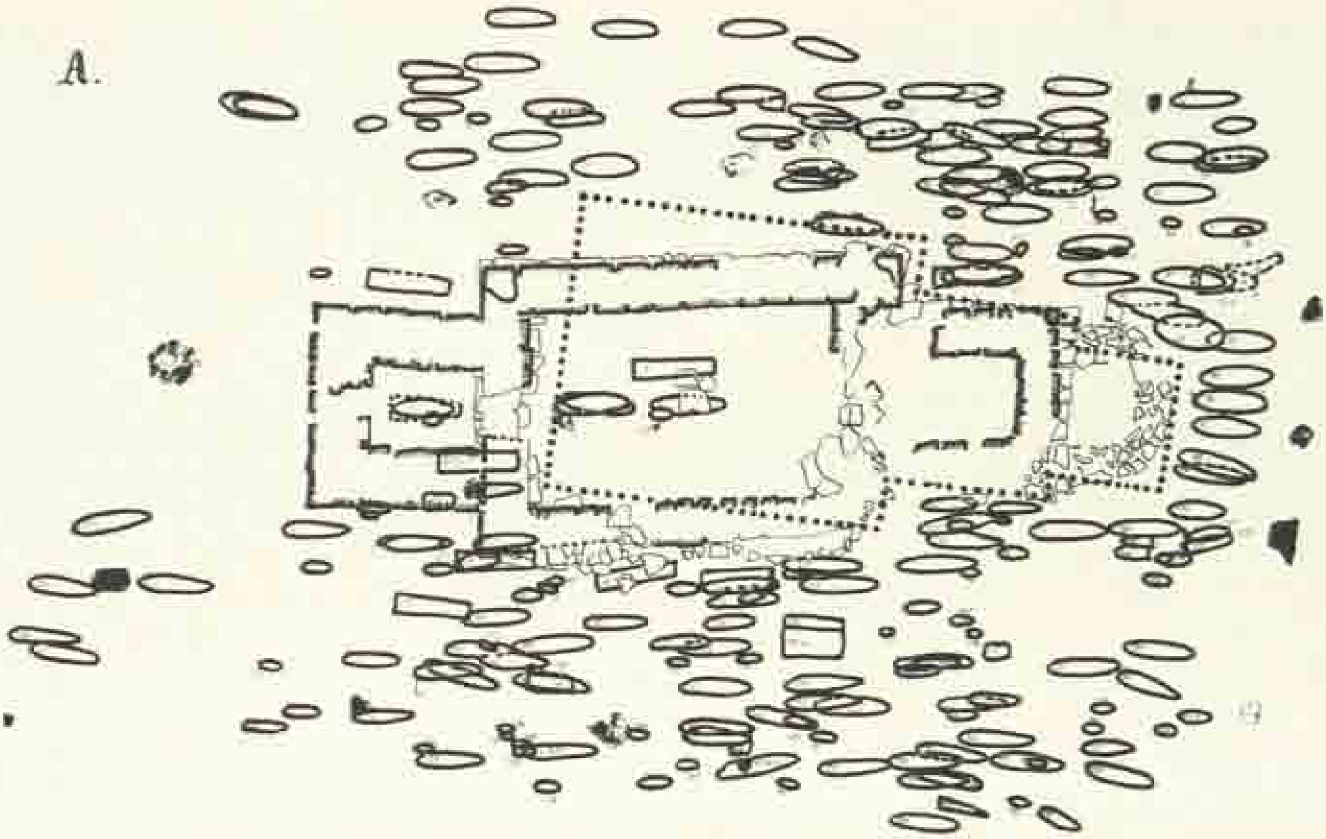
Nu ero kirkiur allar adrar er gerd ſkal upp halda ꝼiordongs kirkium oc attongs 13
kirkium. oc høgendes kirkium þæim kirkium ſkal allum upp halda. oc æigi luꝼt eyda. En eꝼ kirkia brotnar oc ꝼalla hornſtaꝼer þa ſkulu þeir menn er kirkiu æigu lata timbr a luꝼt koma ꝼyr en .xij. manoder ſe gengner. En eꝼ æigi kømr þa ſkulu þæir aller er þa kirkiu æigu. bøta ꝼirer þet biſkupe .iij. morkum. oc ꝼa til oc gera kirkiu þo at ſidar ſe. En eꝼ ꝼirer nemaz æinka menn þa ſkal bøta biſkupe ꝼirer þet aurum .iij. ꝼirer tre huert er till þarꝼ at haꝼa. oc ꝼa tre þo at ſidar ſe oc gera kirkiu oc huergi luꝼt eyda.

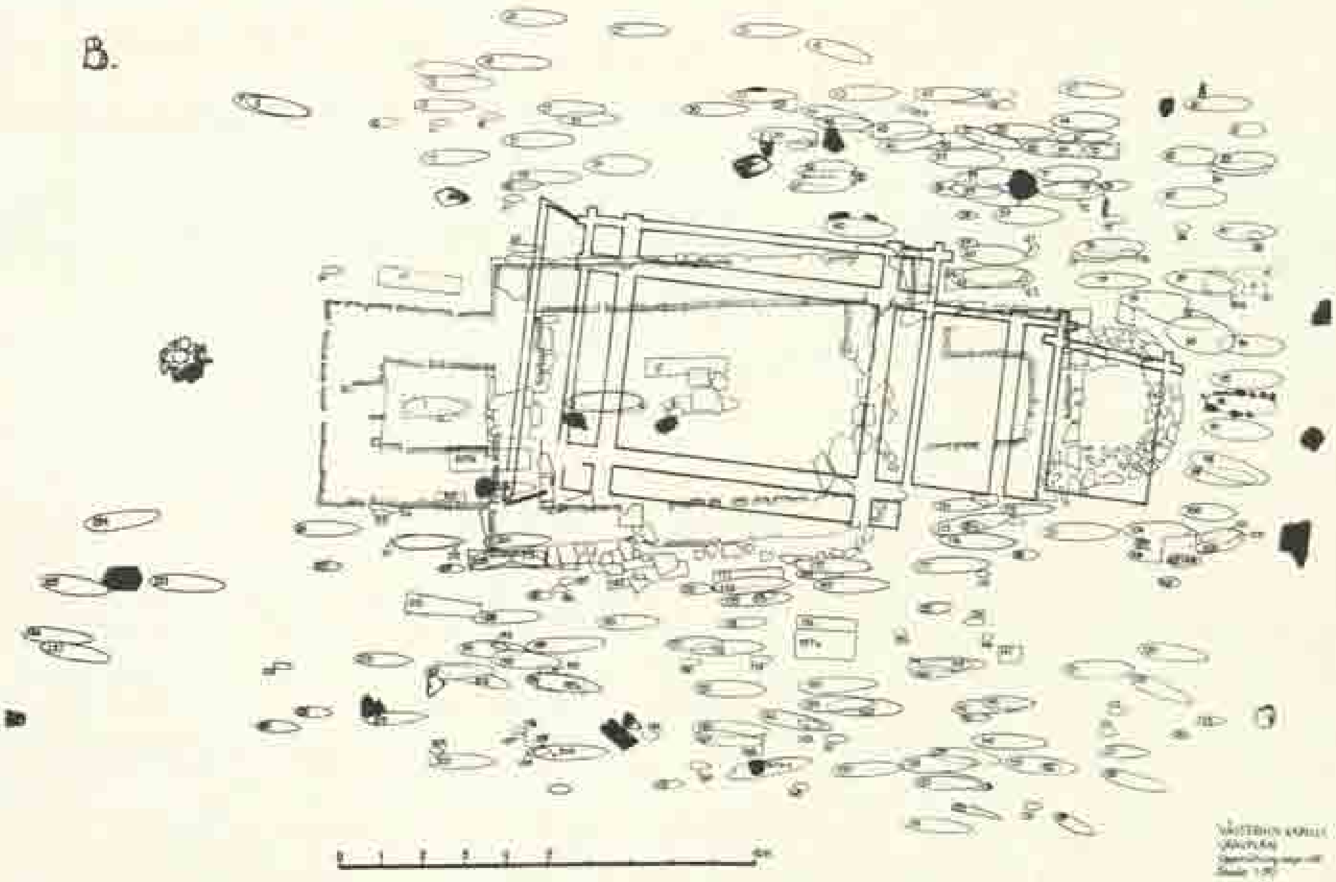
Skeljastadir, Þjórsárdalur, in Iceland.

The Inhumations in the Churchyard (after Þordarson, 1943, Fig. 182). (The Segregation of the Sexes marked by Gejvall.)



A: Västerhus: Hypothetical Plan of the Earlier Church Based on the Grave-Free Areas.





B: Västerhus: Ground Plan with the Outline of Urnes Stave Church Superimposed.

TABLE SECTION

Total of Individuals at Estimated Ages of Death in the Västerhus Material and - from the Age of 14 Years - Their Sex Attribution.

♂
♀

Age class	Column	Individuals (top to bottom)
Foet.	1	Vi, Ton, 167d, DEy, E89v, E89u, 2f
0 - 1 yr	2	Tom, 209, 193, 192, 174b, 157f, 145b, 126, 102d, 102c, 97d, DEe, E89t, 86, 78, 72c, 62/4j, 62/4g, 62/4f, 61, 27, 25e, 2e, 2d
0 - 1 yr	3	Tol, Tok, Toj, 215, 196, 187, 186, 184, 179, 168, 152, 148, 145c, 136c, 132a, 125, 119, 116b, 93c, DEv, DEr, DEm, E89s, E89r, E89q, E89p, E89o, E89n, E89m, 62/4i, 59, 58, 55b, 51/68k, 51/68j, 51/68i, 51/68h, 50c, 50b, 35b, 15a, 14a, 7, 2c
0 - 1 yr	4	Toi, Toh, Tog, 222, 163b, 157e, 157c, 124, 113, 93e, 93d, DEu, DEt, DEq, DEp, DEo, DEn, DEl, DEk, DEj, DEi, DEh, E89l, E89k, 62/4e, 51/68g, 51/68f, 51/68e, 41a, 20a, 16, 14b, 2b, 2a
0 - 1 yr	5	Tof, Toe, Tod, Toc, Tob, 197, 185, 149, DEg, DEd, 39
Infans I	6	173, 157d, 110, 102b, DEf, DEe
Infans I	7	Toa, 109b, 102a, DEc, E89j, 88b, 72b, 62/4d, 62/4c, 49, 18
Infans I	8	198, 174a, 161, 150, 118, 99b, 97c, DEb, E89i, E89h, 88a, 62/4h, 51/68d, 51/68c, 10
Infans I	9	191a, 170, 151, 132b, 123, E89g
Infans I	10	217, 204, 169, 147b, 115b, 107, DEa, E89f, 62/4b, 51/68b, 28, 25b
Infans I	11	195b, 130, E89e, 75, 74, 62/4a, 51/68a, 35a
Infans I	12	220, 214, 210b, 141, E89d, E89c, E89b, 81
Infans I	13	200b, 180, 154, 108
Infans II	14	221, 163a, 144, 129, E89a, 77
Infans II	15	176, 167a, 145a, 136b, 112
Infans II	16	210a, 199, 177, 167c, 143, 127, 100
Infans II	17	114, 26
Infans II	18	218, 33, 29
Infans II	19	13
Infans II	20	216, 212, 9
Juv.	21	83, 70
Juv.	22	219, 208, 207, 171, 128, 103, 94b
Juv.	23	205a, 203, 194, 137, 99a, 8
Adultus	24	190, 122, 89c, 3, 224, 101, 73, 48, 1
Adultus	25	53, 200a, 189, 175, 172, 30, 97b, 97a, 82, 79, 69, 60, 56, 55a, 41, 38
Adultus	26	166b, 166a, 155, 142, 139, 138, 120, 117, 116a, 225, 96, 94a, 93a, 66, 47, 40, 36, 31, 24, 17
Adultus	27	202, 201, 191, 183, 164, 158, 156, 153, 135, 133, 131, 98b, 12, 93b, 84, 80, 76, 72a, 63, 54, 50a, 42, 21, 11
Mat.	28	5, 223, 213, 211, 205b, 195a, 182, 181, 178, 167b, 165, 162, 159, 157b, 157a, 147a, 146, 140, 136a, 134, 121, 111, 109a, 104, 89a, 15, 226, 98a, 106, 91, 90, DivE, 89d, 89e, 89b, 188, 85, 71, 168, 67, 164, 57, 52, 43, 34, 25a
Mat.	29	160, 115a, 6, 4, 227, 95, 92, 87, 65, 62, 51, 46, 45, 44, 37, 32, 23, 22, 19
Sen.	30	205c, 105, 206, 94c, 20

Table 1

Västerhus: Totals of Deaths at Different Ages and Average Life Spans.

(cf. also chap. III:3 and below)

	Age group	Grand total of individuals	Combined ages (years)	♂ Ind.	♂ Yrs.	♀ Ind.	♀ Yrs.	Average age		
A.	Inf. I	183	915	91.5	457.5	91.5	457.5			
	Inf. II	27	270	13.5	135	13.5	135			
	Juv.	15	300	12	240	3	60			
	Ad.	69	2070	31	930	38	1140			
	Mat.	65	2600	29	1160	36	1440	♂+♀	♂	♀
	Sen.	5	300	2	120	3	180	17.7	17.0	18.4
	Totals for whole of A.	364	6455	179	3042.5	185	3412.5			
B.	Inf. I	140	700							
	Inf. II	26	270	83	485	83	485			
	Juv.	15	300	12	240	3	60			
	Ad.	69	2070	31	930	38	1140			
	Mat.	65	2600	29	1160	36	1440	♂+♀	♂	♀
	Sen.	5	300	2	120	3	180	19.5	18.7	20.3
	Totals for whole of B.	320	6240	157	2935	163	3305			
C.	Inf. I	183	315	91.5	157.5	91.5	157.5			
	Inf. II	27	276	13.5	138	13.5	138			
	Juv.	15	278	12	224	3	54			
	Ad.	69	2365	31	1085	38	1280			
	Mat.	65	3440	29	1490	36	1950	♂+♀	♂	♀
	Sen.	5	350	2	140	3	210	19.3	18.1	20.5
	Totals for whole of C.	364	7024	179	3234.5	185	3789.5			
D.	Inf. I	183	236.5	91.5	118.25	91.5	118.25			
	Inf. II	27	249	13.5	124.5	13.5	124.5			
	Juv.	15	248	12	200	3	48			
	Ad.	69	2020	31	930	38	1090			
	Mat.	65	2790	29	1200	36	1590	♂+♀	♂	♀
	Sen.	5	300	2	120	3	180	16.2	15.0	17.3
	Totals for whole of D.	364	5843.5	179	2692.75	185	3150			

A. = Västerhus average life span calculated ad modum Møller-Christensen, "Bogen om Æbelholt kloster" København 1958, p. 137.

B. = The same calculation as A. but excluding the stray child skeletons above grave 89, E of the choir and apse and inside the tower.

C. = The same calculation as A. but using the upper values for each age group (cf. tab. of age divisions).

D. = The same as C. but using the lower values in each age group.

Stature Estimations on the Västerhus Material Following Pearson (P), Telkkä (T) and Trotter and Gleser (Tr&Gl).

3

Males

Gr.	P	T	Tr&Gl	Gr.	P	T	Tr&Gl
3	170	172	174	164	170	172	174
4	176	179	181	165	170	173	173
7	174	177	179	166 a	160	165	165
6	168	172	173	166 b	164	168	169
12	165	167	167	167 b	169	173	174
33	172	176	178	171	168	171	173
89 a	170	173	173	172	174	176	179
89 c	164	168	168	175	170	173	175
98 b	168	171	172	178	174	177	178
99 a	163	166	167	181	168	171	172
104	167	171	171	182	170	173	175
105	165	168	167	183	174	177	179
109 a	167	170	171	189	171	175	177
111	174	178	180	190	162	166	166
115 a	180	183	185	191	169	172	173
116 a	178	177	179	194	174	178	181
117	171	175	177	195 a	163	167	167
120	166	171	172	200 a	176	179	182
121	168	172	173	201	168	171	172
122	165	168	170	202	177	180	182
131	166	172	172	205 b	170	174	176
133 a	167	172	174	208	177	180	183
134	165	169	169	211	169	169	170
135	159	162	164	213	166	169	169
136 a	170	174	174	223	173	177	178
137	168	171	172				
138	172	174	178				
139	164	169	170	n = 66			
140	174	177	179	$\bar{x}$ =	169.5	172.9	174.3
142	164	168	168	σ =	4.2	4.0	4.5
146	178	179	180	Range =	179-159	182-162	185-164
147 a	166	170	172	Var. =	2.5	2.3	2.6
153	171	174	175				
155	171	174	175				
156	172	175	177				
157 a	179	182	187				
157 b	170	173	175				
158	178	181	188				
159	172	175	176				
160	169	173	176				
162	167	171	172				

Females

Gr.	P	T	Tr&Gl	Gr.	P	T	Tr&Gl
1	162	165	167	67	156	159	161
8	154	156	158	68	153	156	157
11	144	146	147	69	151	155	156
15	155	159	161	71	156	159	161
17	168	169	171	72	154	157	158
19	165	166	169	73	152	156	158
20	154	153	156	76	162	161	168
21	161	163	168	79	161	162	167
22	157	161	162	80	156	159	161
23	163	165	168	82	153	155	157
24	156	158	162	84	143	147	146
25	161	166	167	85	154	156	158
30	158	160	164	87	150	153	153
31	159	160	164	89 b	160	162	164
32	155	157	157	89 d	158	160	162
34	158	160	162	89 e	153	157	158
36	142	146	144	Div E	154	157	158
37	152	157	156	90 a	161	163	165
38	157	159	162	91	164	166	170
40 a	153	156	158	92	156	158	159
41	154	157	159	93 a	157	159	162
42	157	159	161	93 b	164	164	169
43	153	156	156	94 a	157	160	163
44	158	159	160	94 c	162	161	(170)
45	160	161	163	95	164	164	170
46	157	160	163	96	158	159	163
47	153	156	158	97 a	158	160	164
48	156	158	161	97 b	155	157	160
50 a	160	160	164	98 a	155	157	161
51	162	165	168	101	152	156	158
52	157	159	166	106	146	151	148
54	156	158	161	188	160	162	166
55 a	157	159	164	224	164	165	171
56	161	162	168	225	155	158	160
57	156	158	160	226	157	160	163
60	158	160	(163)	227	160	162	164
62	158	159	(163)				
63	162	163	169	n = 77	n = 76	n = 76	n = 73
64	163	165	169	$\bar{x}$ =	156.8	159.1	161.6
65	(150)	(154)	(154)	σ =	4.7	4.2	5.0
66	157	161	165	Range =	165-142	166-146	171-144
				Var. =	3.0	2.6	3.1

Mean difference between methods P and Tr&Gl:
♂ = 4.8 ± 1.45, R = 9-2
♀ = 4.7 ± 1.06, R = 7-2
All deviations calculated according to the Tippett method.

Comparison of the Average Statures (AS) Obtained After Pearson (P) on the One Hand and Trotter and Gleser (Tr&Gl) on the Other from Skeletal Material (a) from Västerbjers (Gotland, Stone Age, c. 2000 B.C.) and (b) from Västerhus (Jämtland, Medieval):

4

Col. 1 shows the results of calculations from the long bone lengths of every individual; the average taken from all the estimated statures.
Col. 2 Estimations based only on the average length of each type of bone; the average taken from all the resulting statures.

	a. VÄSTERBJERS, Gotland Stone Age				b. VÄSTERHUS, Jämtland Medieval			
	Males (n = 13)		Females (n = 17)		Males (n = 66)		Females (n = 77)	
	after Pearson	after Trotter and Gleser	after Pearson	after Trotter and Gleser	after Pearson	after Trotter and Gleser	after Pearson	after Trotter and Gleser
AS I	161.5 ± 4.0 x) V = 2.3 R = 177 - 156.6	167.9 ± 4.8 xx) V = 2.8 R = 176.5 - 160.5	152.9 ± 2.8 V = 1.9 R = 157.3 - 147.5	156.9 ± 3.6 V = 2.3 R = 162.5 - 149.7	169.5 ± 4.2 V = 2.5 R = 179 - 159	174.3 ± 4.5 V = 2.6 R = 185 - 164	156.8 ± 4.7 V = 3.0 R = 165 - 142	161.6 ± 5.0 V = 3.1 R = 171 - 144
AS II	163.1 ± 0.8 V = 0.5 R = 164.4 - 162.5	167.7 ± 1.2 V = 0.7 R = 169.5 - 166.5	152.8 ± 0.7 V = 0.5 R = 153.7 - 152.1	157.4 ± 1.7 V = 1.1 R = 160.5 - 156	168.5 ± 1.0 V = 0.6 R = 169.4 - 167.1	172.7 ± 1.1 V = 0.7 R = 175.1 - 172.2	155.6 ± 0.9 V = 0.6 R = 157.2 - 155.1	161.1 ± 2.2 V = 1.3 R = 164 - 158.8

x) All standard deviations calculated according to the Tippett method.

xx) No adjustment for age on the basis of Trotter and Gleser's formula: 0.06 · (age at death – 30) cm could be made in the case of the Västerbjers material.

Table 5

The Differences of Certain Skull Measurements and -Indices Between the Vasterhus Series and Various Comparative Materials.

(underlined figures = P > 0.001) (cf. Chapter Material and Method) (* = calculated by the author)

	Comparative material no.	1			2			3			4		
	from	Trondheim			Lapps (from Norway)			Icelanders			Icelanders (Skeljastadir)		
	Published or measured by (author)	Schreiner (1939)			Schreiner (1935)			Steffensen (1943)			Steffensen (1943)		
	Dating (approximate)	1300 - 1500 A. D.			900 - 1900 A. D.			900 - 1500 A. D.			1000 - 1300 ? A. D.		
	Measurements and indices	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ
Males	Maximum skull breadth (8)	136	1,80 ± 0,73	-0,30	166	-5,00 ± 0,73	-0,63	52	0,20 ± 0,90	-0,23	14	0,80 ± 1,11	1,25
	Bizygomatic breadth (45)	68	3,62 ± 0,91	-0,04	144	0,42 ± 0,80	0,01	22	-0,08 ± 1,45	-1,16	9	0,22 ± 2,41	-2,10
	Maximum skull length (1)	147	3,64 ± 0,93	0,50	169	9,14 ± 0,93	-0,01	98	0,74 ± 1,12	0,70	15	-1,56 ± 1,59	0,96
	Nasion-prosthion height (48)	91	-0,65 ± 0,79	1,03	141	2,55 ± 0,76	0,86	30	-2,95 ± 1,10	0,20	11	-1,35 ± 1,03	1,55
	Basi-bregmatic height (17)	130	3,52 ± 0,83	-0,94	168	4,42 ± 0,76	-0,11	51	1,32 ± 0,93	0,32	14	2,22 ± 1,41	0,43
	Nasal breadth (54)	86	0,00 ± 0,28	-0,10	152	-0,60 ± 0,26	-0,23	32	0,50 ± 0,36	0,09	10	0,60 ± 0,42	0,27
	Anterior forehead breadth (9)	138	3,54 ± 0,65	-0,31	159	1,44 ± 0,64	0,36	44	2,84 ± 0,85	-0,29	15	4,74 ± 0,92	1,11
	Nasion-basion length (5)	126	0,92 ± 0,71	-0,15				37	0,82 ± 0,95	-0,74			
	Orbital height (52)	92	-0,24 ± 0,33	-0,08	156	0,36 ± 0,30	-0,14	29	-1,54 ± 0,42	0,07	9	-1,24 ± 0,33	0,04
Females	Maximum skull breadth (8)	119	0,92 ± 0,69	-0,25	143	-6,18 ± 0,68	-0,53	44	-0,48 ± 1,02	-1,33	14	0,22 ± 1,83	-2,15
	Bizygomatic breadth (45)	50	2,36 ± 0,87	0,38	119	-0,94 ± 0,75	0,29	23	-1,44 ± 0,99	0,98	9	-0,24 ± 0,94	2,50
	Maximum skull length (1)	126	4,90 ± 0,89	0,28	148	8,30 ± 0,86	-0,60	49	1,00 ± 1,07	0,62	15	1,00 ± 1,30	1,71
	Nasion-prosthion height (48)	78	0,60 ± 0,82	0,63	126	2,70 ± 0,74	1,21	31	-0,80 ± 1,07	0,19	11	-2,80 ± 1,19	1,51
	Basi-bregmatic height (17)	105	3,85 ± 0,69	0,25	150	5,25 ± 0,67	-0,34	49	2,35 ± 0,81	0,30	14	3,35 ± 1,01	1,22
	Nasal breadth (54)	63	1,22 ± 0,35	0,55	135	0,42 ± 0,34	0,24	26	1,02 ± 0,42	0,15	10	0,92 ± 0,55	0,60
	Anterior forehead breadth (9)	109	2,47 ± 0,67	0,72	137	0,67 ± 0,67	0,57	44	0,97 ± 0,84	0,46	15	1,77 ± 1,09	-1,11
	Nasion-basion length (5)	98	1,73 ± 0,67	0,79				41	0,23 ± 0,86	0,23			
	Orbital height (52)	81	-0,26 ± 0,38	0,00	140	0,25 ± 0,32	0,37	25	-1,15 ± 0,45	0,03	9	-2,05 ± 0,62	0,53
Males	Length-breadth index (8/1 · 100)	136	-0,33 ± 0,49	-0,13	166	-6,73 ± 0,49	-0,62	51	-0,23 ± 0,66	-0,33	12	1,07 ± 0,81	0,68
	Length-height index (17/1 · 100)	130	0,50 ± 0,53	0,13	168	-1,10 ± 0,51	-0,10	36	0,70 ± 0,66	0,47	13	1,50 ± 0,81	1,01
	Breadth-height index (17/8 · 100)	123	1,22 ± 0,78	-0,68	165	6,22 ± 0,68	0,87	33	1,52 ± 1,02	0,05	13	1,12 ± 1,34	0,44
	Transverse-frontal index (9/10 · 100)	100	0,41 ± 0,51	0,02	149	0,62 ± 0,50	-0,35						
	Transverse-frontoparietal index (9/8 · 100)	128	1,77 ± 0,45	0,00	158	3,57 ± 0,46	-0,34	33	1,67 ± 0,64	-0,08	12	3,17 ± 0,70	0,85
	Facial index (47/45 · 100)				133	3,31 ± 5,63	-1,84	16	-3,69 ± 1,57	-1,05			
	O. A. l-b-index (45/40 · 100)												
	O. A. l-h-index (48/40 · 100)												
	O. A. b-h-index (48/45 · 100)	66	-1,87 ± 0,69	0,36				18	-2,47 ± 0,87	0,88			
	Orbital index (52/51 · 100)	92	-5,50 ± 0,94	-0,36	152	-0,13 ± 0,88	-0,67	29	-3,30 ± 1,15	0,52	13	-2,90 ± 1,82	-0,71
	Nasal index (54/55 · 100)	86	-0,83 ± 0,72	-0,20	148	-2,53 ± 0,69	-0,72	29	1,47 ± 0,89	0,31	13	1,27 ± 0,93	0,66
Females	Length-breadth index (8/1 · 100)	118	-1,57 ± 0,47	0,19	141	-7,27 ± 0,48	-0,36	41	-0,77 ± 0,54	0,68	12	0,63 ± 0,80	0,70
	Length-height index (17/1 · 100)	104	0,15 ± 0,49	0,50	147	-0,55 ± 0,49	-0,08	37	1,05 ± 0,58	0,72	13	1,75 ± 0,79	0,80
	Breadth-height index (17/8 · 100)	98	2,15 ± 0,73	0,24	143	7,85 ± 0,69	0,36	35	2,75 ± 0,89	0,68	13	2,05 ± 1,33	0,29
	Transverse-frontal index (9/10 · 100)	78	0,68 ± 0,49	0,19	130	1,18 ± 0,46	0,02						
	Transverse-frontoparietal index (9/8 · 100)	107	1,17 ± 0,51	0,08	133	3,47 ± 0,47	0,38	35	1,07 ± 0,65	0,29	12	2,97 ± 0,71	0,95
	Facial index (47/45 · 100)				111	3,33 ± 0,90	-0,65	18	-1,37 ± 1,77	-2,10			
	O. A. l-b-index (45/40 · 100)												
	O. A. l-h-index (48/40 · 100)												
	O. A. b-h-index (48/45 · 100)	48	-0,70 ± 0,66	1,14				21	0,10 ± 1,01	-0,09			
	Orbital index (52/51 · 100)	80	-3,70 ± 0,97	-0,36	139	-0,95 ± 0,91	0,27	27	0,65 ± 1,26	0,50	9	-2,70 ± 2,43	-1,26
	Nasal index (54/55 · 100)	63	1,00 ± 0,91	1,11	133	-1,20 ± 0,85	0,62	29	1,50 ± 1,15	0,82	9	-2,20 ± 2,46	1,03

Table 5 (continued)

	5, 6, 7			8			9			10			11		
	St. Clemens, Visby St. Jörgen, Åhus, Skåne Lund, Skåne			Gamleby, Nyby and St. Anna Halland			Gudhem, Västergötland			Kongahälla, Bohuslän			"Korsbetningen" Mass grave I		
	5) Backman (1911) 6) Lindegård & Löfgren (1949) 7) Hjortsjö & Krakau (1944)			Mellquist & Sandberg (1939)			Bengmark, Gejvall & Hjortsjö (1953)			Å. Löfgren & Tengroth (1953			(See next page)		
	900 - 1400 A. D.			1000 - 1565 A. D.			13th Century			13th Century			1361 A. D.		
	n	Diff. $\overline{X} - \varepsilon^{\overline{X}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{X}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{X}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{X}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{X}}$	Diff. σ
8	28	0,68 ± 1.28	- 1.32	193	1.00 ± 0.72	- 0,66	6	- 2,00 ± 2.65	- 1,67	6	- 0,83 ± 2,17	- 0.49	10	- 2,60 ± 3,45	- 6,08
45	26	3.69 ± 1.55	- 2,22	96	1,62 ± 0.91	- 1.16	6	- 5.75 ± 3.28	- 3,05	4	17,67 ± 2,99	- 0,99			
1	28	0.15 ± 1.54	- 0,70	202	-1.86 ± 0.94	- 0.85	6	- 6.39 ± 3.32	- 1,64	6	- 3,39 ± 2,09	1.52	10	- 0,86 ± 3,69	- 5,12
48	26	2.26 ± 1.24	- 0,26	102	-1,05 ± 0.84	0.54	6	- 2,05 ± 1.31	2,28	4	-1,65 ± 1,38	2,61	4	2,20 ± 0,83	4.07
17	27	2,74 ± 1,20	- 0.16	113	-0,48 ± 0,61	- 0,81	6	- 9,15 ± 2,19	- 0,04	5	- 2,88 ± 1,84	1.22	9	1,85 ± 2,45	- 1,98
54	25	0,72 ± 0,37	0,18				6	- 0,92 ± 0,83	- 0,26	4	- 0,55 ± 1,95	- 2,18	4	0,20 ± 0,53	0,74
9	28	2,07 ± 0,99	- 0,35				6	- 1,19 ± 3,74	- 4,96	6	- 2,53 ± 2,32	- 1,40	8	0,64 ± 0,24	- 2,55
5	27	0,04 ± 1,27	- 2,17				6	- 8,01 ± 1,85	- 0,25	5	0,22 ± 1,26	1,51			
52	24	0,21 ± 0,63	- 0,92				6	0,94 ± 0,93	- 0,31	4	- 0,29 ± 1,00	- 0,04	5	2,16 ± 0,71	0,40
8	11	2,26 ± 1,53	- 0,34	44	0,68 ± 1,05	- 1,71 *	4	- 1,38 ± 3,43	- 2,41	5	- 5,78 ± 2,19	- 0,34			
45	9	2,27 ± 1,49	0,52	18	-0,84 ± 1,56	- 1,48 *	4	1,41 ± 2,28	0,19	4	10,16 ± 1,37	2,13			
1	11	-0,62 ± 2,67	- 2,50	46	-1,80 ± 1,16	- 0,09 *	4	2,70 ± 3,24	- 0,30	5	- 4,00 ± 2,42	0,85			
48	10	1,50 ± 1,31	1,23	20	-1,30 ± 1,32	- 0,29 *	4	- 6,05 ± 2,75	- 0,54						
17	11	2,40 ± 1,53	- 0,33	22	-0,75 ± 1,61	- 2,67	4	- 2,40 ± 4,65	- 4,83	5	- 2,95 ± 2,56	- 1,19			
54	10	1,52 ± 0,51	0,77				4	- 0,28 ± 0,45	1,39	4	1,57 ± 0,38	1,58			
9	11	0,62 ± 1,27	0,98				4	2,17 ± 1,33	2,33	5	- 6,23 ± 2,00	0,46			
5	11	2,74 ± 1,44	0,02				4	- 0,17 ± 1,79	0,99	4	- 1,42 ± 1,56	1,48			
52	9	-0,08 ± 0,54	0,83				3	- 1,95 ± 0,56	1,35	4	0,25 ± 1,01	0,24			
8/1 · 100	28	0,41 ± 0,83	- 0,76	193	1,17 ± 0,45	- 0,19	6	1,42 ± 1,87	- 1,37	6	1,34 ± 1,01	0,82	10	- 1,02 ± 0,99	0,24
17/1 · 100	26	-1,09 ± 0,64	- 1,12	112	0,60 ± 0,53	- 0,05	6	- 2,29 ± 0,87	1,60	5	- 0,54 ± 0,92	1,64	9	1,43 ± 1,63	- 1,26
17/8 · 100	18	1,39 ± 0,99	- 0,59	112	-0,68 ± 0,79	- 0,12	6	- 5,16 ± 2,67	- 1,58	5	- 1,14 ± 1,48	1,77	9	3,13 ± 2,76	- 3,28
9/10 · 100	20	-1,93 ± 0,60	- 1,18				6	0,66 ± 1,80	- 1,13	6	- 3,15 ± 1,38	0,08			
9/8 · 100	20	0,77 ± 0,82	- 0,36				6	- 2,00 ± 2,72	- 3,68	6	- 1,26 ± 0,92	0,85			
47/45 · 100	16	-0,32 ± 2,13	- 3,55	44	-0,29 ± 0,98	- 0,30	4	2,61 ± 2,69	- 0,60	3	- 16,29 ± 2,91	- 0,30			
45/40 · 100	12	1,29 ± 2,97	- 0,76				5	5,96 ± 2,24	4,44	4	- 23,67 ± 4,31	0,34			
48/40 · 100	12	2,95 ± 2,32	- 0,27				6	3,06 ± 1,06	5,85	4	1,62 ± 2,03	3,46			
48/45 · 100	26	0,19 ± 0,92	- 0,04	68	-1,87 ± 0,67	0,27	6	0,64 ± 0,95	1,84	4	- 9,22 ± 1,29	1,44			
52/51 · 100	24	-3,81 ± 1,84	- 2,97				6	1,56 ± 1,79	1,26	4	- 8,41 ± 3,96	- 2,51			
54/55 · 100	25	1,36 ± 1,10	- 0,70				6	- 0,32 ± 1,34	1,08	4	- 0,68 ± 3,40	- 2,63			
8/1 · 100	11	0,89 ± 0,98	0,13	43	0,43 ± 0,71	- 0,87	4	- 1,83 ± 1,15	- 0,95	5	- 1,47 ± 0,23	1,71			
17/1 · 100	11	0,97 ± 1,30	- 0,83	22	1,85 ± 0,99	- 1,26	4	- 2,29 ± 1,43	0,49	5	- 1,03 ± 1,92	- 0,93			
17/8 · 100	8	0,96 ± 1,97	- 0,84	22	0,95 ± 1,33	- 1,07	4	- 0,74 ± 2,46	- 0,16	5	0,21 ± 2,93	- 1,78			
9/10 · 100	8	-0,90 ± 0,98	0,57				4	4,28 ± 1,21	0,05	5	- 4,66 ± 0,91	1,15			
9/8 · 100	8	-0,04 ± 0,88	1,08				4	2,24 ± 1,43	0,54	5	- 1,65 ± 0,67	2,08			
47/45 · 100	5	-4,08 ± 3,06	- 1,93	10	-1,87 ± 1,25	0,11	4	- 9,84 ± 3,00	- 1,11	3	- 15,34 ± 1,64	2,17			
45/40 · 100	4	1,95 ± 1,82	4,97				4	- 0,66 ± 4,29	- 0,49	4	- 18,34 ± 1,96	4,61			
48/40 · 100	5	-2,17 ± 4,77	- 4,38				4	- 8,31 ± 4,06	- 1,82	4	- 1,94 ± 2,59	- 1,25			
48/45 · 100	9	-0,59 ± 1,40	- 0,09	14	-2,90 ± 1,14	0,07	4	- 5,75 ± 0,96	0,26	4	- 8,75 ± 0,84	2,51			
52/51 · 100	9	-1,37 ± 1,63	1,35				3	- 4,76 ± 1,98	2,48	4	- 5,58 ± 3,18	- 0,53			
54/55 · 100	10	2,27 ± 1,42	- 1,33				4	2,54 ± 1,41	2,76	4	5,95 ± 2,32	0,77			

Table 5 (continued)

	12			13			14			15			16		
	"Korsbetningen" The warrior graves at Visby, Gotland, Mass grave II			Mass grave III			"Norse-settlers" on Greenland			Jönköping, Småland			Ullånger, Ångermanland		
	Measurements by B. Lundholm Injuries published by Ingelmark, 1939						Mellquist & Sandberg, (1939)			(See next page)			(See next page)		
	1361 A. D.						985 - 1450 A. D.			Modern, mostly undated			Modern, mostly undated		
	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ	n	Diff. $\bar{X} - \varepsilon^{\bar{X}}$	Diff. σ
8	29	-0.72 ± 1.21	-1.03	26	0.85 ± 1.24	-1.16	20	0.50 ± 1.73 *	-2.59 *	43	3.79 ± 0.82	0.96	14	0.14 ± 1.53	-0.64
45	8	0.54 ± 2.11	-0.78	10	4.02 ± 1.51	0.62	17	5.32 ± 1.40	0.18 *	16	3.23 ± 1.51	-0.54	9	-1.30 ± 1.82	-0.21
1	30	-1.66 ± 1.33	0.38	26	0.17 ± 1.66	-1.14	20	5.84 ± 1.97 *	-1.78 *	45	0.33 ± 1.02	1.97	14	2.23 ± 1.69	0.67
48	13	-1.22 ± 1.13	2.53	13	1.13 ± 1.07	2.04	19	-1.58 ± 1.30 *	0.16 *	14	-0.12 ± 1.15	1.52			
17	29	0.00 ± 1.09	0.41	26	-1.25 ± 1.23	0.80	20	4.88 ± 1.31	0.00	39	-1.24 ± 1.08	-0.30	14	-1.98 ± 1.42	0.39
54	16	0.17 ± 0.41	0.29	16	0.20 ± 0.51	-0.13				15	-1.20 ± 0.43	0.27	13	-0.02 ± 0.39	3.89
9	30	-0.19 ± 1.16	-1.51	24	1.18 ± 1.66	-0.59				32	2.24 ± 0.90	0.01			
5										35	-4.71 ± 0.74	1.30			
52	17	1.52 ± 0.51	0.09	15	1.66 ± 0.54	0.03									
8							19	-1.38 ± 0.78 *	1.95 *	28	2.26 ± 1.21	-1.32	8	2.74 ± 1.35	0.88
45							13	4.06 ± 1.05 *	1.56 *	8	2.91 ± 1.73	-0.01	6	1.33 ± 1.88	0.22
1							19	7.40 ± 1.19 *	0.49 *	29	2.92 ± 1.44	-0.65	8	0.57 ± 2.59	-1.01
48							16	1.60 ± 1.19 *	0.84 *						
17							18	2.65 ± 1.47	-1.37	27	0.70 ± 1.24	-1.35	8	-0.40 ± 1.59	0.19
54													8	0.89 ± 0.92	-0.39
9										27	1.21 ± 1.08	0.01			
5										23	1.83 ± 1.02	0.24			
8/1 - 100	29	0.26 ± 0.72	-0.10	26	0.37 ± 0.62	0.66	81	-2.40 ± 0.98	-0.93	45	2.05 ± 0.51	0.94	14	-0.88 ± 1.18	-1.05
17/1 - 100	29	0.68 ± 0.80	-0.16	26	-0.66 ± 0.74	0.38	81	0.40 ± 0.50	1.04	38	-0.89 ± 0.59	-0.23	14	-1.89 ± 0.87	0.63
17/8 - 100	29	0.52 ± 1.01	0.40	26	-1.38 ± 1.14	-0.17	82	3.20 ± 0.94	1.57	37	-3.36 ± 0.93	0.45	14	0.24 ± 2.22	-3.18
9/10 - 100										32	-0.15 ± 0.70	-0.04			
9/8 - 100										32	-0.01 ± 0.70	-0.44			
47/45 - 100							55	-1.60 ± 1.42	0.50						
45/40 - 100													9	7.40 ± 2.96	0.52
48/45 - 100	8	0.82 ± 0.82	2.01	10	-1.45 ± 1.08	-0.80	64	-3.40 ± 1.32	-1.04	13	-2.10 ± 1.08	0.39			
8/1 - 100							85	-4.00 ± 0.59	1.23	28	0.33 ± 0.93	-1.36	8	1.27 ± 1.21	-0.08
17/1 - 100							82	-1.35 ± 0.77	0.49	27	-0.83 ± 0.84	-0.56	8	-0.42 ± 1.38	-0.50
17/8 - 100							82	2.40 ± 1.19	0.23	27	-1.17 ± 1.16	-0.57	8	-1.52 ± 1.85	-0.36
9/10 - 100										24	2.57 ± 1.07	-1.90			
9/8 - 100										27	-0.32 ± 0.75	1.00			
47/45 - 100							47	-1.10 ± 2.22	-0.42						
45/40 - 100													6	8.69 ± 2.99	1.03
48/40 - 100							61	-1.80 ± 0.81	1.12						

Table 5 (continued)

	17			18			19			20			21		
	Vårfrukyrka, Uppland			St. Clemens Visby, Gotland			Uppsala cathedral cemetery			Dragsmark, Bohuslän			Uppsala O. Ågatan.		
	Measurements placed at the author's disposal by B. Lundholm														
	Modern, mostly undated			Modern, mostly undated			Modern, mostly undated			Possibly Medieval			Modern, mostly undated		
	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ
8	14	2,29 ± 1,18	0,82	7	-1,86 ± 1,92	-0,16	41	2,00 ± 0,85	0,72	43	1,16 ± 0,60	-4,49	86	3,65 ± 2,92	-3,44
45	10	1,82 ± 2,17	-1,66	7	2,35 ± 1,56	1,14	11	5,28 ± 2,12	-1,78	31	2,02 ± 3,29	-0,02	72	2,20 ± 1,03	-1,65
1	14	-0,85 ± 1,17	3,02	7	0,87 ± 3,04	-1,52	41	2,24 ± 1,43	-1,35	43	-1,14 ± 1,13	1,00	86	-0,12 ± 0,95	1,56
48	11	2,09 ± 1,32	1,26	7	1,59 ± 2,74	-1,99	15	4,05 ± 0,99	2,16	32	-2,08 ± 0,98	0,93	73	1,79 ± 0,83	0,65
17	13	-5,56 ± 1,33	0,89	7	1,38 ± 1,42	1,76				43	-1,06 ± 0,93	0,75	84	0,43 ± 0,81	0,59
54	12	0,68 ± 0,60	0,81	7	1,34 ± 0,60	0,23				39	-0,39 ± 0,37	-0,24	81	-0,27 ± 0,30	-0,18
8	6	2,02 ± 1,70	0,44	4	6,37 ± 2,49	-0,47	9	2,05 ± 1,76	-0,66	11	-4,93 ± 1,10	0,61	58	2,07 ± 0,76	0,27
45	5	-0,44 ± 1,84	0,69	4	4,41 ± 1,82	1,16	5	-3,24 ± 2,02	0,26	4	1,91 ± 1,59	1,65	49	1,32 ± 0,92	-0,30
1	6	1,03 ± 1,88	1,67	4	-1,80 ± 5,64	-5,16	9	-0,80 ± 1,84	0,96	11	-2,44 ± 1,78	0,65	58	1,03 ± 1,02	0,59
48	6	1,70 ± 1,05	2,83	4	3,45 ± 2,52	-0,06	7	0,27 ± 1,81	0,36	7	-1,01 ± 1,42	1,47	47	2,06 ± 0,82	1,43
17	6	0,02 ± 2,79	-2,31	4	4,85 ± 2,26	0,03				10	0,05 ± 1,84	-1,12	56	1,08 ± 0,82	-0,18
54	6	-0,13 ± 1,01	-0,30	4	2,07 ± 0,79	0,61				9	0,52 ± 0,86	-0,35	39	0,80 ± 0,41	2,66
8/1 · 100	14	1,50 ± 0,87	0,25	9	-1,18 ± 1,33	-0,69	41	0,10 ± 0,57	0,51	43	1,06 ± 0,62	0,05	87	1,87 ± 0,51	0,22
17/1 · 100	13	-2,66 ± 0,87	0,76	9	0,58 ± 0,80	1,43	41	-1,63 ± 0,64	0,47	43	0,12 ± 0,57	1,01	85	-0,13 ± 0,57	0,03
17/8 · 100	13	-5,11 ± 0,39	0,93	9	2,07 ± 1,21	1,62	41	-9,26 ± 0,91	0,42	43	-1,49 ± 0,94	0,07	85	-2,73 ± 0,77	0,47
48/45 · 100	9	0,63 ± 1,28	0,29	8	0,23 ± 1,77	-1,02	10	1,43 ± 1,13	0,64	27	-0,81 ± 0,84	0,43	68	0,00 ± 0,69	0,23
8/1 · 100	6	0,04 ± 1,23	0,26	4	4,06 ± 3,39	-3,61	9	-0,76 ± 0,82	0,94	11	-1,65 ± 0,76	-0,96	58	0,77 ± 0,48	0,97
17/1 · 100	6	-0,30 ± 1,41	-0,07	5	3,34 ± 1,92	-0,94	9	-1,05 ± 1,31	-0,49	10	1,14 ± 0,88	1,77	56	0,26 ± 0,68	-0,81
17/8 · 100	6	-0,56 ± 2,95	-2,45	5	-0,84 ± 1,33	1,96	9	-0,41 ± 1,44	0,66	10	3,38 ± 1,19	1,33	56	-0,56 ± 0,87	-0,25
48/45 · 100	5	0,90 ± 1,31	1,10	4	0,59 ± 2,01	-0,11	5	-0,35 ± 1,44	0,80	3	-1,42 ± 3,55	-2,31	46	0,68 ± 0,75	0,33

III:4*

Table 5 (continued)

	22			23			24			25		
	Vallhagar, Gotland			Gotlanders, Iron Age			Västerbjers and Visby, Gotland.			Inugsuk area, Greenland.		
	Gejvall (1955)			Measurements available by B. Lundholm			Dahr (1943, 1946)			Jørgensen (1953)		
	300 - 600 A. D.			Iron Age			Stone Age C. 2000 B. C.			Medieval		
	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ	n	Diff. $\overline{X} - \varepsilon^{\overline{x}}$	Diff. σ
8	9	4,00 ± 2,14	-1,51	13	6,85 ± 2,16	-2,85	19	0,05 ± 0,91	1,66	98	8,40 ± 0,79	-0,45
45	4	3,12 ± 2,48	0,08	8	5,42 ± 2,34	-1,48	18	-3,64 ± 1,46	-0,65	13	-7,48 ± 1,65	-0,56
1	9	-2,46 ± 2,83	-1,91	14	5,65 ± 1,83	0,09	19	-4,35 ± 1,59	0,29	97	-.36 ± 1,01	0,04
48	4	-3,05 ± 1,10	3,31	10	2,75 ± 1,40	1,14	18	-4,05 ± 1,13	1,20	85	-3,85 ± 0,25	1,04
17	6	-6,68 ± 1,77	1,07	13	-3,86 ± 1,71	-0,61	19	-3,64 ± 1,04	1,57	92	-6,18 ± 0,84	-0,11
54	5	0,10 ± 2,46	0,04				17	1,11 ± 0,42	0,18	88	1,30 ± 0,29	-0,18
9	8	3,14 ± 1,54	0,01				19	-0,31 ± 0,86	1,14	97	2,64 ± 0,69	-0,15
5	6	-3,68 ± 1,58	0,43				19	-4,71 ± 1,13	-0,25	92	-5,18 ± 0,69	-0,03
52	6	-0,04 ± 0,60	0,80				17	-0,51 ± 0,48	0,23	90	-1,94 ± 0,32	0,01
8	9	5,52 ± 0,92	-2,29	7	1,05 ± 2,03	-0,79	12	-2,08 ± 1,21	0,49	82	5,82 ± 0,70	0,31
45	2	2,66 ± 4,43	-1,64	2	-4,84 ± 8,79	-7,85	9	-4,24 ± 1,81	0,16	8	-3,14 ± 1,39	1,05
1	7	-0,10 ± 2,70	-0,86	7	1,34 ± 3,56	-3,23	12	-1,10 ± 1,41	2,11	81	0,70 ± 0,93	0,92
48	3	1,00 ± 1,90	1,72	2	2,70 ± 1,40	-0,52	8	-4,20 ± 1,37	1,50	73	-2,30 ± 0,81	0,85
17	3	-2,55 ± 2,46	-1,19	4	-6,40 ± 1,11	2,46	7	-2,55 ± 1,69	0,20	76	-5,15 ± 0,76	-0,22
54	3	-0,18 ± 1,28	-0,11				8	1,32 ± 0,58	0,77	75	2,02 ± 0,34	0,69
9	7	3,07 ± 1,57	0,86				12	-0,03 ± 1,14	0,16	80	0,97 ± 0,70	0,94
5	3	-2,47 ± 2,61	-0,03				7	-1,87 ± 1,41	0,99	78	-2,97 ± 0,69	0,78
52	4	0,35 ± 1,59	0,94				7	-0,75 ± 0,84	0,28	77	-1,65 ± 0,36	0,16
8/1 · 100	9	2,87 ± 1,19	-0,24	13	1,63 ± 0,98	-0,14	19	1,73 ± 0,59	1,21	97	4,57 ± 0,53	-0,74
17/1 · 100	6	-1,70 ± 2,03	-0,97	13	-4,70 ± 0,76	1,21	19	-0,24 ± 0,73	0,93	92	-.10 ± 0,51	0,99
17/8 · 100	6	-6,58 ± 2,17	0,12	12	-7,40 ± 1,08	1,68	19	-2,53 ± 1,37	-0,56	91	-10,38 ± 0,80	-0,15
9/10 · 100	8	1,42 ± 1,78	-1,72				19	-2,96 ± 0,74	0,44			
9/8 · 100	8	0,27 ± 1,43	-0,99				19	-0,08 ± 0,62	0,76	96	-2,23 ± 0,50	-0,41
47/45 · 100	6	-5,81 ± 1,16	2,96				11	-1,12 ± 1,55	0,00	56	-2,29 ± 0,94	-0,17
45/40 · 100	6	6,51 ± 2,53	3,21				17	7,54 ± 1,57	4,65			
48/40 · 100	6	-1,33 ± 2,01	2,71				17	2,32 ± 1,14	4,47			
48/45 · 100	6	-3,50 ± 1,00	1,71	7	2,00 ± 0,92	1,80	18	-1,59 ± 0,88	0,83	79	-1,77 ± 0,65	0,63
52/51 · 100	5	-5,50 ± 3,29	-1,13				17	2,54 ± 0,96	2,49	90	-4,00 ± 0,90	0,32
54/55 · 100	4	0,07 ± 2,31	-0,40				17	3,41 ± 0,95	0,89	86	3,77 ± 0,73	-0,37
8/1 · 100	5	3,83 ± 0,91	0,96	7	-0,05 ± 1,76	-1,41	12	-0,67 ± 0,89	0,63	78	2,93 ± 0,50	0,40
17/1 · 100	4	-2,85 ± 1,41	0,54	4	-1,98 ± 1,66	0,02	7	-0,75 ± 1,17	0,34	76	-3,15 ± 0,50	0,71
17/8 · 100	4	-7,55 ± 1,72	1,39	4	-7,19 ± 1,58	1,69	7	-0,85 ± 1,07	2,33	75	-8,05 ± 0,69	0,43
9/10 · 100	7	1,46 ± 1,96	-2,07				12	-1,27 ± 0,62	1,31			
9/8 · 100	7	-0,73 ± 1,25	0,15				12	0,97 ± 0,81	1,08	80	-2,43 ± 0,52	1,11
47/45 · 100							6	-5,99 ± 1,00	3,07	40	-1,87 ± 1,04	0,13
45/40 · 100							5	4,97 ± 4,15	-1,12			
48/40 · 100	3	5,39 ± 1,15	4,82				5	2,10 ± 2,99	-0,28			
48/45 · 100							8	-1,24 ± 1,67	-0,69	65	-0,20 ± 0,65	0,79
52/51 · 100	3	-4,50 ± 4,79	-1,37				5	3,35 ± 1,12	3,84	77	-1,00 ± 0,95	1,09
54/55 · 100	3	-1,80 ± 3,42	-0,63				7	3,60 ± 1,34	2,24	75	3,70 ± 0,85	1,84

Table 6

Differences in Certain Skull Measurements and Indices between the Västerhus Material and the 25 Comparative Materials

Presented in Chapters II and V (summary table)

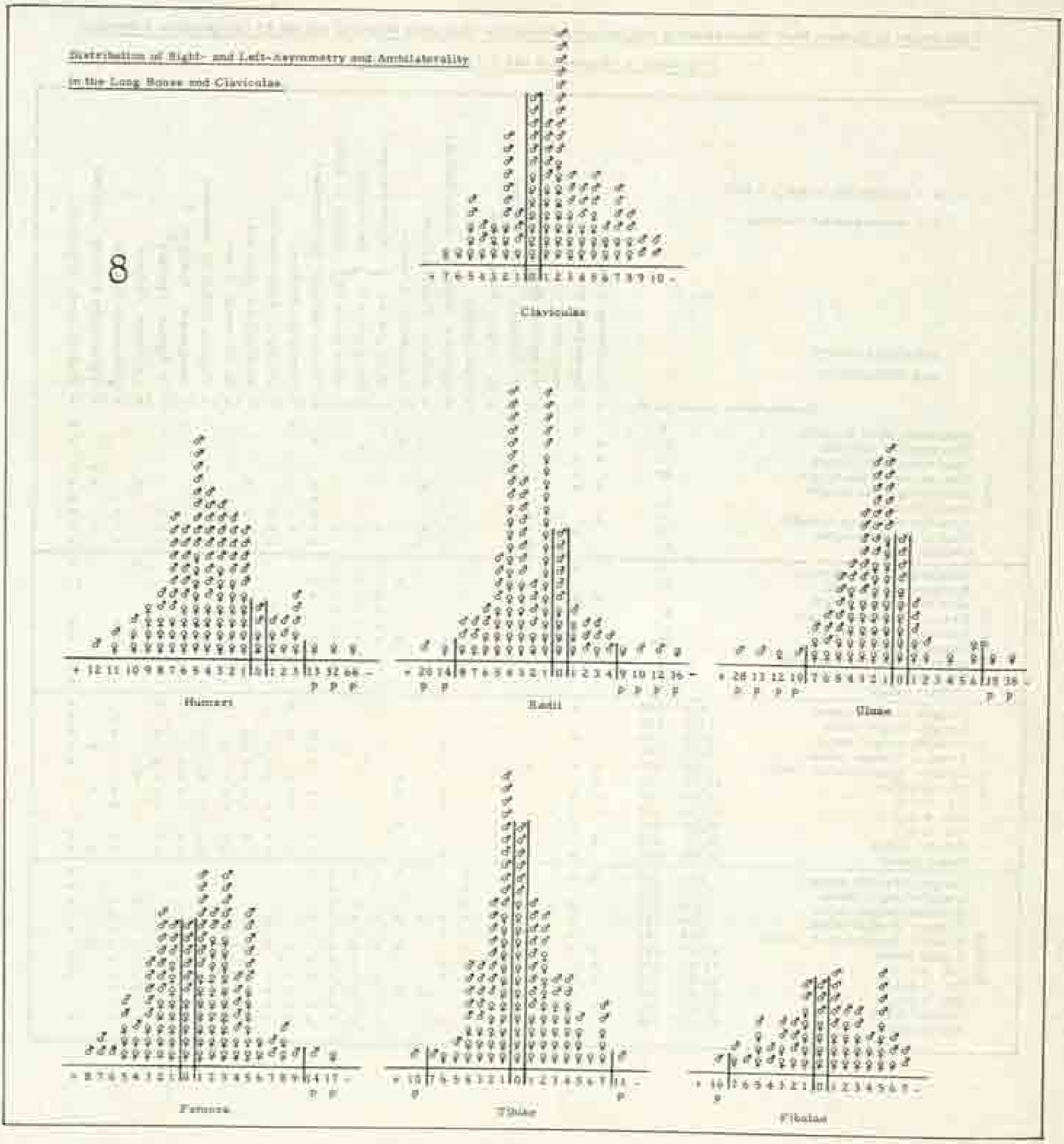
x = probability value > 0.001

o = measurement missing

Comparative materials: 1 Trondheim, medieval; 2 Lapps from Norway; 3 Icelanders; 4 Icelanders, Skeljastadir; 5 St. Clemens, Visby, Gotland; 6 St. Jörgen, Åhus, Skåne; 7 Lund, Skåne; 8 Gamleby, Nyby, St. Anna, Halland; 9 Gudhem, Västergötland; 10 Kungahälla, Bohuslän; 11 Mass grave I, 12 Mass grave II, 13 Mass grave III } "Korsbetningen" the warrior graves at Visby; 14 "Norse settlers" in Greenland; 15 Jönköping, Småland; 16 Ullånger, Ångermanland; 17 Vårfrukyrka, Uppland; 18 St. Clemens, Visby; 19 Uppsala Cathedral cemetery; 20 Dragsmark, Bohuslän; 21 Ö. Ågatan, Uppsala; 22 Vallhagar, Gotland; 23 Gotlanders Iron Age; 24 Västerbjers + Visby, Gotland; 25 Inugsuk area, Greenland

	MEASUREMENTS and INDICES	Comparative material No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Male	Maximum skull breadth	8		x													x										x
Male	Bizygomatic breadth	45	x									x				x											x
Male	Maximum skull length	1	x	x																							
Male	Nasion-prosthion height	48		x														o			x					x	x
Male	Basi-bregmatic height	17	x	x							x					x			x		o			x		x	x
Male	Nasal breadth	54								o						o					o				o		x
Male	Anterior forehead breadth	9	x		(x)	x				o						o		o	o	o	o	o	o		o		x
Male	Nasion-basion length	5		o						o	x		o	o	o	o	x	o	o	o	o	o	o		o	x	x
Male	Orbital height	52			x	x				o						o		o	o	o	o	o	o		o		x
Female	Maximum skull breadth	8		x									o	o	o							x		x			x
Female	Bizygomatic breadth	45										x	o	o	o	x											
Female	Maximum skull length	1	x	x									o	o	o	x											
Female	Nasion-prosthion height	48		x									o	o	o			o									
Female	Basi-bregmatic height	17	x	x									o	o	o				o		o	o			x		x
Female	Nasal breadth	54								o		x	o	o	o	o				o	o				o		x
Female	Anterior forehead breadth	9	x							o			o	o	o	o		o	o	o	o	o	o		o		
Female	Nasion-basion length	5		o						o			o	o	o	o		o	o	o	o	o	o		o		x
Female	Orbital height	52								o	x		o	o	o	o		o	o	o	o	o	o		o		x
Male	Length-breadth index	8/1 · 100		x													x						x				x
Male	Length-height index	17/1 · 100																							x		x
Male	Breadth-height index	17/8 · 100		x												x	x		x		x		x		x		x
Male	Transv. frontal index	9/10 · 100								o						o		o	o	o	o	o	o		o	x	o
Male	Transv. frontopariet. index	9/8 · 100	x	x		x				o						o		o	o	o	o	o	o		o		x
Male	Facial index	47/45 · 100	o				o					x					o	o	o	o	o	o	o	x	o		
Male	OA. b-l-i	45/40 · 100	o	o	o					o		x				o	o		o	o	o	o	o		o	x	
Male	OA. h-l-i	48/40 · 100	o	o	o					o						o	o	o	o	o	o	o	o		o		
Male	OA. h-b-i	48/45 · 100		o								x						o						x			
Male	Orbital index	52/51 · 100	x													o		o	o	o	o	o	o		o		x
Male	Nasal index	54/55 · 100		x						o						o	o	o	o	o	o	o	o		o	x	x
Female	Length-breadth index	8/1 · 100	x	x					o			x	o	o	o	x								x			x
Female	Length-height index	17/1 · 100							o				o	o	o												x
Female	Breadth-height index	17/8 · 100		x	x				o				o	o	o									x	x		x
Female	Transv. frontal index	9/10 · 100		o					o	o	x	x	o	o	o	o		o	o	o	o	o	o		o		o
Female	Transv. frontopariet. index	9/8 · 100		x		x			o	x			o	o	o	o		o	o	o	o	o	o		o		x
Female	Facial index	47/45 · 100	o	x			o		o			x	o	o	o		o	o	o	o	o	o	o	o	o	x	
Female	OA. b-l-i	45/40 · 100	o	o	o				o	o		x	o	o	o	o	o		o	o	o	o	o	o	o		o
Female	OA. h-l-i	48/40 · 100	o	o	o				o	o			o	o	o	o	o	o	o	o	o	o	o	x	o		o
Female	OA. h-b-i	48/45 · 100		o					o		x	o	o	o	o		o	o						o	o		
Female	Orbital index	52/51 · 100	x						o				o	o	o	o	o	o	o	o	o	o	o		o		
Female	Nasal index	54/55 · 100							o	o			o	o	o	o	o	o	o	o	o	o	o		o		x

8



Distribution of Right- and Left-Asymmetry and Ambilaterality in the Long Bones and Claviculae

7

Percentages of Right (+) and Left (-) -Asymmetrical Shaft Bone Pairs and Ambilateral Ones in the Västerhus Population

	Males						Females						Infants + adolescents					
	R > L		R < L		R = L		R > L		R < L		R = L		R > L		R < L		R = L	
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
Claviculae	25.45	14	63.64	35	10.91	6	25.49	13	60.78	31	13.73	7	36.59	30	28.05	23	35.36	29
Humeri	86.67	52	10.00	6	3.33	2	87.04	47	9.26	5	3.70	2	43.69	45	14.56	15	41.75	43
Radii	72.00	36	16.00	8	12.00	6	84.62	44	7.69	4	7.69	4	47.73	42	14.77	13	37.50	33
Ulnae	80.49	33	9.76	4	9.76	4	75.56	34	11.11	5	13.33	6	52.05	38	19.18	14	28.77	21
Femora	37.93	22	51.72	30	10.35	6	32.31	21	60.00	39	7.69	5	24.75	25	30.69	31	44.56	45
Tibiae	55.36	31	33.93	19	10.71	6	36.76	25	44.12	30	19.12	13	24.68	19	36.36	28	38.96	30
Fibulae	37.50	12	53.13	17	9.37	3	36.36	12	51.52	17	12.12	4	21.74	10	36.96	17	41.30	19

Comparison Between the Female Skull No. 101 in Västerhus, and Three Stone Age Skulls, Two of Which Come from Stød in Trøndelag (after Schreiner) the Third One from Slotarp in Västergötland, SW Sweden (after Fürst).

9

Measurements and Indices	No.	Västerhus No. 101 ♀	Stød No. 6 ♀	Stød No. 7 ♀	Slotarp ♀ (Fürst)
Cubic capacity (calculated)	(38 c_1)	1268	1124.4	1351.4	1264
Max. skull length	1	177	176	181	173
Max. skull breadth	8	130	123	134	132
Anterior forehead breadth	9	88	88	93	95
Posterior forehead breadth	10	109	104	112	110
Basi-bregmatic height	17	127	126	135	128
Auricular-bregma height	20 a	110	102	116	113
Nasion-basion length	5	93	101	96	94
Median sagittal arc	25	359	350	376	355
Horizontal circumference	23	492	491	508	490
Maxillary breadth	46	88	——	——	88
Nasion-prosthion height	48	56.8	60	——	66
Nasal height	55	43.1	47	——	46
Nasal breadth	54	24.1	25	——	23
Orbital height	52	40.0	40	——	42
Orbital breadth	51	35.5	31	——	33
Length-breadth index (8/1 · 100)		73.45	69.9	74.0	76.3
Transverse-frontal index (9/10 · 100)		89.17	84.6	83.0	86.4
Transverse-frontoparietal index (9/8 · 100)		67.69	71.5	69.4	70.6
Length-height index (48/40 · 100)		71.45	71.6	74.6	74.0
Breadth-height index (48/45 · 100)		97.69	102.4	100.8	97.0
Length-OBH-index (20a/1 · 100)		62.15	58.0	64.1	65.3
Breadth-OBH-index (20a/8 · 100)		84.62	82.9	86.6	81.3
Nasal index (54/55 · 100)		56.05	53.2	——	50.0
Orbital index (52/51 · 100)		79.45	77.5	——	78.6

Comparison of the Measurements of the Crania from Västerhus No. 37 (♀) and 183 (♂) and from Ås, KR (♀) and "MGr" (♂).

10

Measurements and Indices	Martin No	Ås (after Fürst) "MGr" ♂	Västerhus No. 183 ♂	Ås (after Fürst) KR ♀	Västerhus No. 37 ♀
Cubic capacity with millet in cc	38	1550	1540	1245	1280
Maximum skull length	1	183	182	182	179
Glabella-inion length	3	182	180	182	169
Nasion-inion length	2a	176	176	174	167
Nasion-bregma length	29	111	115	112	107
Maximum skull breadth	8	143	142	128	141
Anterior forehead breadth	9	95	97	90	95
Posterior forehead breadth	10	118	123	100	117
Basi-bregmatic height	17	138	138	122	125
Nasion-basion length	5	103	103	97	95
Vertical auricular height	21	118	111	——	109
Horizontal circumference	23	524	519	498	514
Nasion bregma arc	26	130	130	130	120
Median sagittal arc	25	367	370	369	359
Transverse arc	24	320	326	305	312
Nasion-gnathion height	47	(117)	121	——	——
Nasion-prosthion height	48	73	72	——	——
Bizygomatic breadth	45	133	131	(118)	130
Maxillary breadth	46	91	87	90	103
Nasal height	55	53	50	——	——
Nasal breadth	54	25	21	——	——
Orbital height	52 sin.	33	40	(31)	33,6
Orbital breadth	51 sin.	40	41,2	(38)	42
Palatal length	62	52	47,5	——	——
Palatal breadth	63	36	42	——	——
Basion-prosthion length	40	98	96	——	——
Anterior interorbital breadth	50	27	(20)	(24)	21
Facial outline angle	72	(85°)	83°	——	——
Facial triangle angles: Prosthion-basion-nasion	72:5	65°	63°7	——	——
Facial triangle angles: Basion-nasion-prosthion	72:5	42°	42°2	——	——
Facial triangle angles: Nasion-prosthion-basion	72:5	73°	74°1	——	——
Condylar breadth	65	117	122	——	——
Angle breadth	66	102	96	——	——
Chin height	69	35	37,9	——	——
Ramus height Cd-Go (Lindegård) sin	Cd-Go	71	67,5	——	——
Ramus breadth sin	71	34	32,4	——	——
Angulus mandibulae (Moràni)	Ang.	119°	113°5	——	——
Length-breadth index	8/1 · 100	78,6	78,02	70,3	78,77
Length-height index	17/1 · 100	76,9	75,82	67,0	69,83
Breadth-height index	17/8 · 100	97,9	97,18	105,0	88,65
Transv. frontoparietal index	9/8 · 100	66,4	68,31	70,3	67,36
Facial index	47/45 · 100	(88)	92,37	——	——
OA. b-h-index (Hjortsjö)	48/45 · 100	54,9	54,96	——	——
Nasal-index	54/55 · 100	47,2	42,00	——	——
Orbital-index	52/51 · 100	82,5	88,50	(81,6)	80,00
Interorbital-index	50/44 · 100	25,8	(21,51)	(26,4)	21,72
Palatal l-b-index	63/62 · 100	69,2	88,42	——	——

Table 11

Comparative Table of Differences in Mean Skull Measurements - Indices - Standard Deviations and Coefficients of Variation between the Västerhus Skulls and the Medieval Skulls from Trondheim.

		MALES						FEMALES					
Measurements	No.	Diff. $\bar{x} - \bar{x}$ ± $\varepsilon^{\bar{x}}$	Diff. σ	Diff. Var. Coeff.	n Västerhus	n Trondheim	Signific. P<	Diff. $\bar{x}$ ± $\varepsilon^{\bar{x}}$	Diff. σ	Diff. Var. Coeff.	n Västerhus	n Trondheim	Signif. P<
Cubic capacity with millet	38	111.8 ± 17.6	-5.03	-0.91	54	92	0.001	83.1 ± 15.9	-20.81	-2.06	41	72	0.001
" " follow. P.	38 d_2	56.7 ± 10.9	-10.80	-0.95	61	126	0.001	63.4 ± 8.55	-26.01	-2.26	64	96	0.001
Max. skull length	1	3.6 ± 0.93	0.50	0.20	61	147	0.001	4.9 ± 0.90	0.28	0.05	64	126	0.001
Glabella-lambda length	3	3.4 ± 0.97	0.54	0.24	61	148	0.02	4.1 ± 0.85	0.38	0.14	66	128	0.001
Glabella-inion length	2	7.7 ± 0.97	0.22	-0.04	61	141	0.001	7.1 ± 0.92	-0.24	-0.31	67	123	0.001
Nasion-bregma length	29	2.2 ± 0.67	2.27	2.03	60	140	0.05	3.7 ± 0.62	-0.09	-0.21	63	129	0.001
Bregma-lambda length	30	2.8 ± 0.81	0.74	0.52	62	145	0.001	3.5 ± 0.85	1.28	1.00	66	125	0.001
Lambda-opisthion length	31	2.2 ± 0.72	-0.26	-0.39	62	142	0.01	2.6 ± 0.74	0.88	0.79	63	114	0.001
Nasion-basion length	5	0.9 ± 0.71	-0.15	-0.20	60	126	0.3	1.7 ± 0.67	0.79	0.73	61	98	0.02
Maximum skull breadth	8	1.8 ± 0.72	+0.36	+0.25	62	136	0.02	0.9 ± 0.69	-0.25	-0.22	66	119	0.2
Anterior forehead breadth	9	3.5 ± 0.65	-0.31	-0.47	61	138	0.001	2.5 ± 0.67	0.72	0.65	66	109	0.001
Posterior forehead breadth	10	3.7 ± 0.85	-0.19	-0.50	60	101	0.001	1.8 ± 0.78	0.01	-0.06	64	79	0.05
Biauricular breadth	11	5.1 ± 0.71	-0.65	-0.68	62	129	0.001	2.0 ± 0.70	-0.03	-0.09	62	96	0.01
Asterion breadth	12	2.3 ± 0.75	0.35	0.22	62	126	0.01	1.4 ± 0.70	0.07	0	63	108	0.05
Mastoidal breadth	13	4.9 ± 0.81	-0.68	-0.79	62	84	0.001	1.8 ± 0.73	0.28	0.21	62	64	0.02
Basi-bregmatic height	17	3.5 ± 0.84	-0.94	0.42	62	130	0.001	3.9 ± 0.69	0.25	0.11	65	103	0.001
Auricular-bregma height △	20a	3.0 ± 0.60	-0.15	-0.09	62	131	0.01	3.6 ± 0.57	0.57	0.42	64	102	0.001
Length of foramen magnum	7	1.1 ± 0.40	-0.09	-0.44	62	121	0.01	1.0 ± 0.40	+0.04	-0.16	62	92	0.02
Breadth of foramen magnum	16	1.5 ± 0.34	-0.01	-0.34	62	118	0.001	0.3 ± 0.35	0.24	0.73	55	91	0.4
Horizontal circumference	23	9.2 ± 2.04	0.19	-0.01	60	133	0.001	9.6 ± 2.05	0.09	-0.03	63	101	0.001
Transverse arc	24	16.9 ± 1.52	-0.29	-0.24	61	128	0.001	14.3 ± 1.19	0.71	0.07	62	93	0.001
Median sagittal arc	25	10.6 ± 1.84	1.72	-0.18	61	139	0.001	12.1 ± 1.76	1.62	0.35	62	109	0.001
Nasion-bregma arc	26	1.0 ± 0.94	0.40	0.20	61	142	0.01	5.2 ± 0.90	-0.42	-0.63	63	120	0.001
Bregma-lambda arc	27	3.8 ± 1.13	0.74	0.43	63	147	0.01	3.4 ± 1.02	1.34	1.12	65	125	0.001
Lambda-opisthion arc	28	3.5 ± 1.00	0.20	0.02	63	144	0.001	4.5 ± 1.08	2.57	1.13	63	114	0.001
Basion-prosthion length	40	-2.9 ± 0.86	-0.29	-0.14	55	83	0.001	0.9 ± 0.86	0.47	0.46	49	69	0.3
Nasion-prosthion height	48	-0.6 ± 0.79	1.03	1.50	56	91	0.5	0.6 ± 0.84	0.63	0.89	52	78	0.5
Upper facial breadth	43	2.5 ± 0.61	-0.18	-0.24	59	89	0.001	2.9 ± 0.64	0.36	0.45	63	70	0.001
Biorbital breadth	44	2.2 ± 0.59	-0.19	-0.29	55	81	0.001	2.4 ± 0.67	1.10	1.07	52	64	0.001
Posterior interorb. breadth	49	1.5 ± 0.47	0.06	-0.35	46	44	0.01	1.0 ± 0.55	-0.65	-3.18	52	32	0.1
Anterior interorb. breadth	50	0.3 ± 0.42	0.13	0.45	50	86	0.5	1.0 ± 0.42	-0.17	-0.22	46	73	0.02
Bizygomatic breadth	45	3.6 ± 0.91	-0.04	-0.13	49	68	0.001	2.4 ± 0.87	0.38	0.24	51	50	0.01
Maxillary breadth	46	2.4 ± 0.92	-0.00	-1.09	56	79	0.01	2.8 ± 0.83	-0.31	-0.50	50	62	0.001
Nasal breadth	54	0 ± 0.28	-0.10	-0.40	54	86	0	1.2 ± 0.36	0.55	1.94	48	63	0.01
Nasal height	55	0.5 ± 0.51	0.32	0.59	57	93	0.3	1.2 ± 0.61	0.21	0.25	49	74	0.05
Orbital breadth left	51	2.4 ± 0.42	0.18	0.16	52	92	0.001	0.5 ± 0.43	0.53	1.13	51	81	0.3
Orbital height left	52	-0.2 ± 0.33	-0.08	0.01	56	92	0.6	-0.2 ± 0.38	0	0.02	59	61	0.6
Palatal length	62	1.0 ± 0.42	-0.16	-0.46	48	77	0.02	2.7 ± 0.57	0.42	0.55	45	65	0.001
Palatal breadth	63	1.3 ± 0.41	0.27	0.49	60	69	0.01	0.8 ± 0.45	0.05	-0.01	54	70	0.1
Facial outline angle	72	1.0 ± 0.61	0.38	—	56	73	0.2	0.8 ± 0.57	1.01	—	49	61	0.2
L-B-I (8/1 · 100)		-0.3 ± 0.49	-0.13	-0.15	61	136	0.6	-1.6 ± 0.47	0.18	0.33	66	110	0.001
L-H-I (17/1 · 100)		-0.5 ± 0.53	0.13	0.16	61	130	0.4	0.2 ± 0.49	0.50	0.70	64	104	0.7
B-H-I (17/8 · 100)		1.2 ± 0.78	-0.68	-0.81	62	123	0.2	2.2 ± 0.73	0.24	0.13	64	98	0.01
L-OBH-I (20a/1 · 100)		-0.1 ± 0.34	-0.09	-0.14	61	130	0.8	0.2 ± 0.36	0.22	0.33	64	100	0.6
B-OBH-I (20a/8 · 100)		0.5 ± 0.48	-0.34	-0.43	61	126	0.6	2.0 ± 0.53	0.41	0.41	64	97	0.001
Sag.-front. index (29/26 · 100)		-1.0 ± 0.25	-0.22	-0.24	60	140	0.001	-0.2 ± 0.43	-0.19	-0.23	62	119	0.9
Sag.-parietal index (30/27 · 100)		0 ± 0.24	-0.07	0.08	62	145	0	0.3 ± 0.20	-0.42	-0.48	65	124	0.2
Sag.-occipital index (31/28 · 100)		-0.8 ± 0.40	-0.39	0.51	62	142	0.05	-0.9 ± 0.39	0.25	0.33	63	113	0.05
Transv.-frontal index (9/10 · 100)		0.3 ± 0.51	0.02	0	59	100	0.6	0.7 ± 0.49	-0.03	-0.03	64	78	0.2
Transv.-fr.par. index (9/8 · 100)		1.8 ± 0.45	0	-0.11	50	128	0.001	1.2 ± 0.50	0.08	0.03	66	107	0.02
OA. b-b.i (48/45 · 100)		-1.9 ± 0.68	0.16	0.90	48	66	0.01	-0.7 ± 0.67	1.14	2.20	47	48	0.3
Orbital index left (52/51 · 100) sin		-5.5 ± 0.94	-0.36	0	51	92	0.001	-3.7 ± 0.93	0.56	0.94	51	80	0.001
Interorbital index (50/44 · 100)		-0.2 ± 0.42	0.27	1.26	44	76	0.7	0.3 ± 0.47	-0.20	-1.19	43	61	0.5
Nasal index (54/55 · 100)		-0.8 ± 0.72	-0.20	-0.27	53	86	0.3	1.0 ± 0.91	1.11	2.09	46	63	0.3
Palatal l-b-index (63/62 · 100)		0.9 ± 1.30	0.26	0.20	48	64	0.5	-2.5 ± 1.40	-1.74	-1.71	40	43	0.1
Foramen-magn.-index (16/7 · 100)		1.1 ± 0.96	0.88	0.90	62	115	0.3	-1.2 ± 1.01	1.83	2.25	54	89	0.3

Table 12

Västerhus: Coefficients of Variation of Cranial Measurements and Indices (and corresponding of the Medieval Material from Oslo and Trondheim, after Schreiner, Crania Norv. I, p. 124-5).

A. Cranial Measurements

Brain Case

	Västerhus ♂	Västerhus ♀	Oslo ♂	Oslo ♀	Trondheim ♂	Trondheim ♀
Variability low v - 3.49 (for Västerhus' ♂♂)						
Horizontal circumference	2.49	2.52	2.49	2.44	2.50	2.55
Transverse arc	3.02	3.09	3.94	3.00	3.28	3.02
Median sagittal arc	3.19	3.18	3.59	3.14	3.37	2.83
Maximum skull breadth	3.27	3.23	3.64	3.41	3.50	3.45
Maximum skull length	3.33	3.32	3.12	2.98	3.13	3.27
Biauricular breadth	3.42	3.61	3.79	3.73	4.10	3.70
Variability moderately low v 3.50 - 4.49 (for Västerhus' ♂♂)						
Glabella-inion length	3.56	3.50	3.48	3.27	3.60	3.81
Auricular-bregma height	3.59	3.40	3.89	3.45	3.68	2.98
Glabella-lambda length	3.63	3.30	3.26	3.00	3.39	3.16
Basi-bregmatic height	3.84	3.64	4.31	3.84	4.67	3.35
Nasion-basion length	4.08	4.53	4.39	4.01	4.25	3.78
Anterior forehead breadth	4.18	4.86	4.36	4.34	4.65	4.21
Posterior forehead breadth	4.20	4.04	4.53	4.03	4.50	4.10
Mastoidal breadth	4.28	4.26	4.77	4.46	5.07	4.05
Variability moderately high v 4.50 - 5.99 (for Västerhus' ♂♂)						
Cubic capacity (calculated)	4.50	3.15	6.38	5.84	5.45	7.62
Lambda-opisthion length	4.75	5.23	5.01	4.97	5.14	4.48
Nasion-bregma arc	4.88	4.01	5.29	4.43	4.68	4.64
Bregma-lambda length	5.44	5.40	5.09	4.98	4.92	4.40
Lambda-opisthion arc	5.60	4.35	4.63	5.76	5.59	5.20
Variability high v 6.00 - (for Västerhus' ♂♂)						
Nasion-bregma length	6.11	3.57	4.11	4.19	4.98	3.78
Bregma-lambda arc	6.17	5.87	5.79	5.76	5.74	4.75
Cubic capacity (with millet)	6.74	3.56	9.08	7.38	7.65	5.44
Length of foramen magnum	6.84	6.96	6.89	6.46	7.28	7.30
Breadth of foramen magnum	6.86	7.26	7.12	7.07	7.20	6.53

Facial Skeleton

	Västerhus ♂	Västerhus ♀	Oslo ♂	Oslo ♀	Trondheim ♂	Trondheim ♀
Variability moderately low v 3.50 - 4.49 (for Västerhus' ♂♂)						
Biorbital breadth	3.54	4.25	3.41	3.31	3.83	3.18
Bizygomatic breadth	3.59	3.64	4.02	3.18	3.72	3.40
Upper facial breadth	3.63	3.93	3.45	3.20	3.67	3.48
Condylar breadth mand.	3.99	4.98	4.45	4.94	–	–
Variability moderately high v 4.50 - 5.99 (for Västerhus' ♂♂)						
Palatal length	4.80	6.92	5.76	5.89	5.26	6.37
Orbital breadth	4.86	5.52	4.41	4.30	4.70	4.39
Maxillary breadth	4.96	4.67	5.21	4.75	6.09	5.17
Basion-prosthion length	5.14	5.16	5.12	4.47	5.28	4.70
Orbital height	5.59	6.54	6.42	6.04	6.88	6.42
Nasion-gnathion height	5.70	6.24	5.94	5.46	–	–
Variability high v 6.00 - (for Västerhus' ♂♂)						
Nasal height	6.27	6.81	6.30	5.65	5.76	6.56
Palatal breadth	6.39	6.40	6.25	5.79	5.90	6.41
Upper facial height	7.15	7.19	6.02	6.07	5.65	6.30
Ramus breadth mandible	7.47	9.28	8.28	8.44	–	–
Ramus height mandible	7.50	8.07	6.39	6.78	–	–
Chin height	7.56	10.60	8.27	10.00	–	–
Nasal breadth	7.87	8.49	7.39	7.10	7.47	6.55
Post. interorb. breadth	8.58	8.20	8.56	9.04	8.93	11.38
Anterior interorb. breadth	11.25	11.39	11.10	11.00	10.80	11.16

B. Indices

	Västerhus ♂	Västerhus ♀	Oslo ♂	Oslo ♀	Trondheim ♂	Trondheim ♀
Variability low v - 3.49 (for Västerhus' ♂♂)						
Sagittal parietal index	1.72	1.22	1.71	1.92	1.64	1.70
Sagittal frontal index	1.78	1.72	1.99	2.11	2.02	1.95
Sagittal occipital index	3.40	3.13	3.87	2.92	2.92	2.80
Variability moderately low v 3.50 - 4.49 (for Västerhus' ♂♂)						
Length-OBH-index	3.59	3.84	4.00	3.94	3.73	3.51
Breadth-OBH-index	3.71	4.09	3.93	4.04	4.14	3.68
Transverse frontal index	3.88	3.65	4.04	3.86	3.88	3.46
Length-breadth index	4.10	4.15	3.81	3.68	4.25	3.82
Transv. frontoparietal index	4.16	4.71	4.79	4.47	4.27	4.68
Variability moderately high v 4.50 - 5.99 (for Västerhus' ♂♂)						
Breadth-height index	5.12	4.90	4.87	4.86	5.93	4.77
Breadth index mandible	5.07	5.22	4.90	5.89	–	–
Facial index	5.28	5.41	5.30	6.52	–	–
Variability high v 6.00 - (for Västerhus' ♂♂)						
Foramen magnum index	7.47	7.78	6.69	6.88	6.57	5.53
Orbital index	6.62	6.83	6.52	6.30	4.62	5.89
OA. breadth-height index	7.22	7.10	5.79	6.38	6.32	4.90
Palatal l-b-index	7.63	6.96	7.47	7.48	7.43	8.69
Nasal index	7.71	10.52	10.35	8.54	8.98	8.43
Interorbital index	10.51	9.64	10.19	9.20	9.25	10.83

Table 13

Diagram Showing the Occurrence of Ten Different "Discrete Traits" in the Västerhus Skeletons.

(Same order of the individuals as in the parallel graphs.)

Females north of the church

Indiv. No.	Discrete trait No. 0	9	8	7	6	5	4	3	2	1
8						5				
11										
15			8	7				3		
17					6	5				
21			8	7						
22										
23										
24						5				
25		9								
30					6	5		3		
31		9		7			4			1
32										
34				7						
36						5				
37								3		
38										
40		9	8		6		4			
41							4			1
42		9								
43					6					
44										
45								3		
46										
48							4			1
50a				7						
51							4			
52	0									
54										
55a				7	6		4			
56							4			
57						5	4			
63								3		
64		9			6					
65										
67							4			
68								3	2?	
69							4			1
71				7			4			1
72a			8				4	3		1
73		9				5	4	3?		
76										
79					6		4			1
80		9		7?	6			3		
82										
84				7						
85				7		5				
87					6?	5		3?		1
89b								3		1
89d										
90		9			6					
91						5			2?	1
92						5				
93a						5?				
93b				7						
94a	0			7				3		
95						5				
96						5		3		
97a				7						
97b						5				
98a								3		1
101		9								
106				7	6?	5				

Males south of the church

Discrete trait No. 1	2	3	4	5	6	7	8	9	0	Indiv. No.
		3								223
			4				8	9		213
		3								211
					6	7				205b
	2		4		6					202
1			4	5		7		9		201
1	2			5			8			200a
1			4			7				195a
	2		4		6				0	194
	2					7	8			191
		3	4	5						190
1		3	4				8			189
1			4						0	183
				5					0	182
1					6					181
1						7				178
1			4	5					0	175
1			4	3						172
			4			7				171
										167b
			4							166b
				5		7				166a
1						7				165
1			4			7				164
	2					7				162
						7				160
					6		8	9		159
1		3								158
										157b
						7?	8		0	157a
1					6					156
1			4		6	7	8			155
			4				8		0	153
										147a
1	2		4	5		7				146
1					6	7	8			142
						7?				140
1			4				8			139
1	2					7				138
					6		8			136a
					6	7		9		135
										134
			4	5						131
			4	5	6					122
										121
1			4		6	7				120
			4							117
										116a
										115a
1		3		5		7	8			111
1						7				109a
										105
		3				7				104
										99a
				5		7				98b
			4							89c
							8			89a

0 = Os incae, os tripartita occipitalis
9 = Torus palatinus
8 = Sutural bones in lambda or at bregma
7 = Sacrum with 6 or more vertebrae incorp.
6 = Rotated or impacted teeth
5 = Sutura metopica persistens
4 = Shovel-shaped upper incisors
3 = Perforatio olecrani
2 = Spina bifida occulta
1 = Bony bridge on sulc. art. vert. atlas

VASTERHUS

Changes of a Pathological Character and Damage Resulting from External Injury Observed on the Skeletal Material from Vasterhus.

14

191	(277)	282	284		723 & 738	723.1				730.	738	745	752	Damage resulting from external injury E 998 etc.				Notation as in "Stat. Klassifikation"
														Blows, etc.		Fractures		
Sequelae from [illegible]	Thickening of cranial vault	Scurvy ?	Sequelae from rickets	Mineral disturbance in teeth	Arthrosis deformans, pseudarthrosis, resulting from dislocations or fractures	Spondylosis deformans in the lumbar vertebrae (in parenthesis also such cases in the cervical and/or thoracic vertebrae)	Spondylosis resulting from rupture	Spondylolysis and vertebral fusion	Vertebral atrophies	Osteitis, etc.	Callus formations	Scoliosis	Hydrocephaly	Fresh	Healed	Fresh	Healed	
82	51, 65, 67				1, 20, 22, 31, 50a, 51, 65, 76, 87, 89b, 91, 92, 93b, 98a, 224	21, (23), 32, 42, 43, 45, (46), 47, 52, 65, 67, 71, 73, 85, 87, (89b), 90, 91, (97b), (98a), (225), 226, (227)	19, 34, 40, 97b, 227	46, 52	19, 22, 46, 98a	65, 67, 90, 85 ?	44	20, 51			89b		65, 82, 92	Grave No. Females
1	3				15	23	5	2	4	4	1	2			1		3	Total 37
		10	169	26						41a "Div. 22", "Div. Kp"			128					Grave No. Children + adolescents
		1	1	1						3			1					Total 7
	5				111, 117, 138, 147a, 166a	(6), 89a, 109a, 111, 115a, (121), 134, (135), 140, 146, (147a), 156, 158, 159, 160, 162, (165), 178, 181, 201, 202, 205c, 211, 213	147a, 156, 186, 164, 205c	109a*, 121, 138, 165 ?, 181,*, 182 ?	134, 158, 165	162, 167b	159, 160	138, 158, 165		53, 154, 172, 175, 178, 183, 195a	89a, 153, 157b, 160, 166a, 178, 182, 200a, 203, 211		89a, 122, 131, 138, 159, 176, 200a	Grave No. Males
	1				4	24	5	6	3	2	2	3		7	10		7	Total 42

Vasterhus

Distribution of Arthrosis Deformans (5 males, 15 females)

15

	723.0 [1]	I	II	III	IV	V
	Grave No.	Articulus manus	Articulus humeri	Articulus cubiti (epicondylus rad. & uln.)	Articulus coxae (caput fem.)	Articulus genu
Females	1			A C dex., Ep. R + U dex.		
	20		dex., sin.		dex., sin.	
	22				dex.	
	31	sin.				
	50 a			cap. sin. dex.		
	51				dex.	
	65			Ep. R. dex.-sin., U. dex.	dex.	
	76	dex.				
	87		dex., sin.			
	89 b		dex.	U. R. dex.	dex.	
	91		dex.			
	92			U. R. dex.	sin.	
	93 b					dex.
	98 a			R. + U. sin.		
	224		dex., sin.			
Males	111		dex.			
	117			R. sin.		
	138		dex.			
	147 a			Ep. R. + U. dex., sin.		
	166 a					dex.
		2 ♀	5 + 2 ♀ ♂	6 + 2 ♀ ♂	8 + 0 ♀ ♂	1 + 1 ♀ ♂

[1] The number refers to "Stat. Klassifikation".

Table 16

The Differences Between the Two Separate Series of Cranial Measurements of Male and Female Skulls in the Västerhus Material.

		Males				Females			
	No.	$\bar{x} \pm \varepsilon_{\bar{x}}$	σ	n	v	$\bar{x} \pm \varepsilon_{\bar{x}}$	σ	n	v
Cubic capacity with millet in cc	38	3,07 ± 2,04	15,15	54	167,03	3,66 ± 2,26	14,45	41	394,97
" " following Pearson	38 d_1	2,18 ± 0,90	7,01	61	294,35	1,45 ± 0,57	4,57	64	314,87
" " "	38 d_2	1,31 ± 1,66	12,95	61	987,80	4,75 ± 1,21	9,71	64	204,32
Maximum skull length	1	0,21 ± 0,07	0,58	61	272,77	0,29 ± 0,07	0,60	66	209,03
Glabella-lambda length	3	0,25 ± 0,08	0,65	61	263,82	-0,03 ± 0,10	0,80	66	-2650,17
Glabella-inion length	2	0,02 ± 0,10	0,74	61	4631,25	-0,05 ± 0,09	0,75	67	-1660,06
Nasion-inion length	2a	-0,15 ± 0,11	0,82	60	-548,07	0,05 ± 0,09	0,72	64	1556,17
Nasion-bregma length	29	0,05 ± 0,06	0,49	60	970,00	0,05 ± 0,11	0,83	62	1733,33
Bregma-lambda length	30	-0,03 ± 0,17	1,31	62	-4093,75	0,23 ± 0,12	0,99	66	435,68
Lambda-opisthion length	31	-0,07 ± 0,07	0,58	62	-858,46	-0,05 ± 0,08	0,59	65	-1247,90
Nasion-basion length	5	0,00 ± 0,64	0,50	60	∞	-0,09 ± 0,07	0,58	61	-644,12
Maximum skull breadth	8	0,24 ± 0,09	0,74	62	308,33	0,20 ± 0,09	0,71	66	358,38
Anterior forehead breadth	9	0,05 ± 0,05	0,42	61	846,94	-0,12 ± 0,07	0,61	68	-517,80
Posterior forehead breadth	10	0,22 ± 0,11	0,83	60	380,18	-0,25 ± 0,13	1,04	64	-414,00
Biauricular breadth	11	0,42 ± 0,14	1,08	62	257,76	0,32 ± 0,14	1,12	62	345,20
Asterion breadth	12	-0,57 ± 0,02	1,38	61	-240,42	-0,52 ± 0,18	1,43	63	-271,95
Mastoidal breadth	13	-0,18 ± 0,14	1,10	62	618,64	-0,12 ± 0,11	0,87	65	-733,61
Basi-bregmatic height	17	0,00 ± 0,07	0,51	62	∞	0,03 ± 0,09	0,75	65	2431,82
Auricular-bregma height △ -OBH	20a	0,08 ± 0,08	0,61	62	755,94	0,13 ± 0,09	0,78	65	574,05
Auricular-bregma height, measured in OAE-plane	20b	-0,12 ± 0,08	0,65	61	-568,76	-0,01 ± 0,07	0,54	61	-6634,15
Vertical auricular height	21	0,18 ± 0,12	0,90	61	502,22	0,28 ± 0,12	1,00	64	354,09
Length of foramen magnum	7	-0,13 ± 0,09	0,74	62	-584,13	-0,07 ± 0,03	0,22	62	-316,18
Breadth of foramen magnum	16	0,12 ± 0,05	0,36	62	-300,83	-0,14 ± 0,05	0,38	56	-267,38
Horizontal circumference	23	0,05 ± 0,20	1,52	60	3030,00	0,02 ± 0,20	1,68	63	10031,45
Transverse arc	24	-0,56 ± 0,13	1,04	61	-186,71	-1,37 ± 0,23	1,83	62	-133,11
Median sagittal arc	25	-0,36 ± 0,11	0,86	61	-237,40	0,06 ± 0,18	1,46	63	2309,52
Nasion-bregma arc	26	-0,15 ± 0,10	0,77	61	-520,95	-0,18 ± 0,16	1,26	63	-717,14
Bregma-lambda arc	27	-0,11 ± 0,09	0,72	63	-649,55	0,08 ± 0,13	1,06	65	1371,91
Lambda-opisthion arc	28	-0,10 ± 0,11	0,87	63	-910,33	0,06 ± 0,16	1,23	63	1937,01
Basion-prosthion length	40	-0,40 ± 0,06	0,47	55	-116,25	-0,64 ± 0,07	0,48	48	-75,75
Nasion-gnathion height	47	-0,10 ± 0,11	0,82	52	-856,25	-0,09 ± 0,12	0,84	46	-964,37
Nasion-prosthion height	48	-0,12 ± 0,07	0,55	56	-440,00	-0,44 ± 0,10	0,72	51	-164,46
Upper facial breadth	43	-0,02 ± 0,07	0,51	59	-2988,23	-0,03 ± 0,07	0,55	63	-1744,48
Inner orbital facial breadth	43:1	-0,44 ± 0,08	0,59	60	-133,48	-0,34 ± 0,08	0,63	63	-183,81
Biorbital breadth	44	-0,54 ± 0,07	0,52	52	-95,02	-0,36 ± 0,09	0,64	52	178,93
Posterior interorbital breadth	49	0,04 ± 0,06	0,39	46	1062,16	-0,11 ± 0,07	0,46	51	-407,02
Anterior interorbital breadth	50	0,04 ± 0,08	0,58	47	1645,71	-0,24 ± 0,07	0,46	44	-194,07
Bizygomatic breadth	45	-0,08 ± 0,07	0,49	49	-60,12	0,16 ± 0,13	0,90	51	575,16
Maxillary breadth	46	-0,51 ± 0,10	0,76	54	-149,31	-0,56 ± 0,19	1,37	51	242,45
Nasal breadth	54	-0,02 ± 0,04	0,29	54	-1220,83	-0,08 ± 0,07	0,45	48	-560,49
Nasal height	55	-0,01 ± 0,08	0,57	57	-6443,18	0,17 ± 0,07	0,48	49	291,41
Orbital breadth (left)	51 sin	-0,07 ± 0,05	0,35	52	-505,60	-0,06 ± 0,06	0,39	51	-639,34
" " (right)	51 dx	-0,05 ± 0,05	0,34	49	-633,96	-0,16 ± 0,07	0,48	48	-305,06
Orbital height (left)	52 sin	-0,93 ± 0,03	0,23	56	-24,65	-0,04 ± 0,03	0,23	55	-596,86
" " (right)	52 dx	-0,13 ± 0,04	0,29	51	-219,55	0,03 ± 0,04	0,31	60	1107,14
Palatal length	62	-0,09 ± 0,05	0,38	48	-407,61	0,01 ± 0,08	0,56	46	13093,02
Palatal breadth	63	-0,04 ± 0,06	0,43	58	-1180,56	0,02 ± 0,06	0,41	51	2066,33
Palatal height	64	-0,23 ± 0,06	0,41	43	-178,07	-0,21 ± 0,06	0,42	44	-201,16
Facial outline angle	72	-0,43 ± 0,16	1,17	56	-271,56	-0,56 ± 0,16	1,11	49	-196,97
Facial triangle angles: Prosthion-basion-nasion	72:5	-0,03 ± 0,06	0,46	55	-1628,57	-0,14 ± 0,10	0,65	47	-455,24
Facial triangle angles: Basion-nasion-prosthion	72:5	-0,19 ± 0,07	0,45	44	245,40	-0,36 ± 0,09	0,64	48	-178,13
Facial triangle angles: Nasion-prosthion-basion	72:5	0,26 ± 0,07	0,50	55	193,36	0,53 ± 0,10	0,69	44	-129,87
Condylar breadth	65	-0,46 ± 0,08	0,54	52	-117,61	-0,47 ± 0,09	0,64	51	-136,52
Angle breadth	66	0,16 ± 0,08	0,61	61	372,56	-0,14 ± 0,08	0,64	59	-466,91
Length (68) Go-Mt (Lindegård) sin.*	68	0,12 ± 0,06	0,45	60	388,03	0,11 ± 0,07	0,54	63	488,29
Condylomental line Cd-Mt (Lindegård) sin.*	Cd-Mt	0,11 ± 0,08	0,61	60	566,67	0,09 ± 0,09	0,70	61	773,83
Chin height	69	-0,05 ± 0,03	0,24	57	-487,75	-0,16 ± 0,04	0,34	60	217,42
Corpus height p_1h (Morant) sin.*	P_1H	-0,02 ± 0,03	0,19	59	1141,18	-0,01 ± 0,03	0,23	58	-2616,28
Corpus height m_2h (Morant) sin.*	M_2H	-0,02 ± 0,03	0,26	58	-1535,29	-0,06 ± 0,03	0,19	53	-298,44
Alveolar arch length m_2p_1 (Morant)*	M_2P_1	0,08 ± 0,04	0,32	57	420,78	-0,19 ± 0,06	0,41	51	-217,74
Corpus breadth	69:3	-0,01 ± 0,03	0,21	62	-3485,33	0,16 ± 0,03	0,28	66	177,56
Ramus height Cd-Go (Lindegård) sin.*	Cd-Go	-0,25 ± 0,06	0,49	62	-198,37	-0,19 ± 0,09	0,74	68	-392,02
Ramus breadth sin	71	-0,10 ± 0,04	0,29	61	-302,04	-0,04 ± 0,03	0,25	65	-565,00
Incisura depth	70:3	-0,01 ± 0,02	0,17	56	-2485,71	-0,02 ± 0,02	0,17	64	-982,35
Incisura breadth	71:1	-0,07 ± 0,04	0,28	58	-394,44	-0,04 ± 0,04	0,33	64	-795,12
Angulus mandibulae (Morant)*	Ang.	0,41 ± 0,08	0,63	60	155,39	0,15 ± 0,12	0,97	64	653,69
Angle of slope of alveolar plane (Lindegård)*	Alv.	0,13 ± 0,09	0,67	55	-503,76	0,20 ± 0,11	0,81	50	400,00
Outline angle	79:3	0,40 ± 0,15	1,05	48	265,15	0,36 ± 0,20	1,26	40	345,73
Basal angle	79:4	0,04 ± 0,10	0,75	62	1858,56	-0,02 ± 0,09	0,73	65	-4556,25
Length-breadth index 8/1	100	0,00 ± 0,06	0,43	60	17400,00	0,01 ± 0,06	0,47	65	4947,17
Length-height index 17/1	100	-0,09 ± 0,05	0,38	61	-413,61	-0,07 ± 0,07	0,53	64	-741,94
Breadth-height index 17/8	100	-0,17 ± 0,07	0,56	62	-333,93	-0,06 ± 0,09	0,73	64	-1194,08
Length-OBH-index 20a/1	100	-0,06 ± 0,05	0,36	61	-579,87	0,04 ± 0,06	0,51	63	1263,68
Breadth-OBH-index 20a/8	100	-0,11 ± 0,07	0,57	61	-518,76	0,04 ± 0,10	0,82	64	2022,22
Sagittal-frontal index 29/26	100	0,10 ± 0,08	0,61	60	588,63	0,17 ± 0,11	0,87	62	517,55
Sagittal-parietal index 30/27	100	0,18 ± 0,09	0,70	62	393,60	-0,05 ± 0,11	0,92	65	-1803,54
Sagittal-occipital index 31/28	100	0,03 ± 0,09	0,69	62	2458,78	-0,06 ± 0,13	1,05	65	-1807,96
Transverse-frontal index 9/10	100	-0,05 ± 0,08	0,62	59	-1252,52	0,04 ± 0,11	0,87	64	2174,13
Transv. frontoparietal index 9/8	100	-0,09 ± 0,06	0,44	60	-469,80	-0,23 ± 0,08	0,63	66	-277,19
Facial index 47/45	100	0,00 ± 0,10	0,67	44	98529,41	-0,20 ± 0,20	1,38	51	-633,70
OA.l-b-index (Hjortsjö) 45/40	100	0,53 ± 0,12	0,86	48	163,69	1,11 ± 0,20	1,35	55	121,06
OA.l-a-index (Hjortsjö) 48/40	100	0,18 ± 0,10	0,75	55	409,14	0,04 ± 0,13	1,06	49	2677,66
OA.b-h-index (Hjortsjö) 48/45	100	-0,08 ± 0,07	0,48	48	-601,91	-0,48 ± 0,12	0,85	47	-178,77
Orbital index (left) 52/51	100 sin	-0,09 ± 0,12	0,89	51	-977,10	0,12 ± 0,15	1,07	50	858,87
Orbital index (right) 52/51	100 dx	-0,08 ± 0,13	0,92	47	-1161,82	0,43 ± 0,19	1,29	49	299,93
Interorbital index 50/44	100	0,15 ± 0,10	0,65	44	446,90	-0,31 ± 0,10	0,66	45	-212,38
Nasal index 54/55	100	0,02 ± 0,08	0,60	53	2257,58	-0,12 ± 0,16	1,10	46	-904,96
Palatal b-h-index 64/63	100	-0,56 ± 0,15	1,01	43	-178,51	-0,54 ± 0,18	1,17	48	-213,80
Palatal l-b-index 63/62	100	0,06 ± 0,16	1,15	48	1998,22	0,68 ± 0,26	1,68	40	240,44
Foramen magnum index 16/7	100	-0,09 ± 0,11	0,87	62	-978,55	-0,26 ± 0,18	1,32	56	-504,99
Breadth-length index 68/65	100	0,30 ± 0,08	0,56	52	182,57	0,34 ± 0,08	0,56	53	168,56
Breadth index 66/65	100	0,45 ± 0,09	0,64	51	140,99	0,25 ± 0,09	0,62	52	246,01
Incisura index 70:1/71:1	100	0,06 ± 0,08	0,61	58	979,10	-0,16 ± 0,19	1,30	63	-793,17
Index mandibulae (Lindegård)* 65/Cd-Mt	100	-0,43 ± 0,10	0,71	61	-165,74	0,44 ± 0,11	0,80	52	185,36

Constants for the Male and Female Series of Adult Skulls from Västerhus.

(Means, ± Probable Errors, Standard Deviations, Coefficients of Variation and Ranges)

	MALES $\bar{X} \pm \varepsilon_{\bar{X}}$	σ	n	v	Range	FEMALES $\bar{X} \pm \varepsilon_{\bar{X}}$	σ	n	v	Range
38	1490.56 ± 13.68	100.30	54	6.74	1700 - 1220	1313.66 ± 11.48	73.00	41	5.56	1460 - 1140
38 d_1	1460.67 ± 8.42	65.75	61	4.50	1623 - 1294	1302.30 ± 5.13	41.05	64	3.15	1482 - 1225
38 d_2	1447.62 ± 10.81	84.40	61	5.83	1651 - 1245	1303.14 ± 8.96	71.65	64	5.50	1485 - 1134
1	187.44 ± 0.80	6.25	61	3.33	202 - 171	180.20 ± 0.74	6.01	66	3.32	196 - 168
3	179.93 ± 0.84	6.54	61	3.63	197 - 162	173.26 ± 0.70	5.72	66	3.30	188 - 161
2	179.25 ± 0.82	6.39	61	3.56	194 - 168	170.28 ± 0.73	5.97	67	3.50	189 - 158
2a	174.50 ± 0.88	6.80	60	3.89	190 - 162	166.72 ± 0.80	6.37	64	3.82	186 - 155
29	112.77 ± 0.89	6.89	60	6.11	130 - 101	110.02 ± 0.50	3.93	63	3.57	119 - 103
30	114.61 ± 0.79	6.24	62	5.44	130 - 100	110.74 ± 0.74	5.99	66	5.40	124 - 95
31	97.39 ± 0.59	4.63	62	4.75	109 - 89	95.24 ± 0.63	4.99	63	5.23	107 - 86
5	100.82 ± 0.53	4.09	60	4.05	111 - 91	96.83 ± 0.56	4.39	61	4.53	111 - 90
8	142.00 ± 0.59	4.64	62	3.27	153 - 130	135.62 ± 0.54	4.39	66	3.23	149 - 126
9	98.64 ± 0.53	4.12	61	4.18	108 - 90	94.17 ± 0.56	4.58	66	4.86	106 - 85
10	121.18 ± 0.66	5.10	60	4.20	133 - 109	114.78 ± 0.58	4.64	64	4.04	130 - 106
11	127.94 ± 0.56	4.38	62	3.42	137 - 118	120.11 ± 0.55	4.34	62	3.61	129 - 108
12	112.66 ± 0.63	4.96	62	4.40	123 - 101	107.90 ± 0.56	4.45	63	4.12	118 - 95
13	106.63 ± 0.58	4.57	62	4.28	115 - 96	99.48 ± 0.54	4.24	62	4.26	108 - 89
17	132.52 ± 0.65	5.09	62	3.84	143 - 115	127.85 ± 0.55	4.40	65	3.44	141 - 121
20a	113.16 ± 0.49	3.84	62	3.39	120 - 106	109.91 ± 0.47	3.74	64	3.40	119 - 102
20b	111.74 ± 0.47	3.68	61	3.29	119 - 104	108.81 ± 0.49	3.81	61	3.50	116 - 101
21	113.69 ± 0.54	4.25	61	3.74	121 - 106	111.02 ± 0.53	4.24	64	3.82	128 - 103
7	37.15 ± 0.32	2.54	62	6.84	43.6 - 32.8	35.29 ± 0.31	2.46	62	6.96	41.8 - 29.4
16	31.55 ± 0.27	2.17	62	6.86	36.4 - 27.0	29.46 ± 0.29	2.14	56	7.26	34.0 - 26.2
23	529.02 ± 1.70	13.20	60	2.49	570 - 493	507.48 ± 1.61	12.80	63	2.52	531 - 481
24	322.11 ± 1.25	9.73	61	3.02	337 - 294	309.37 ± 1.21	9.55	62	3.09	336 - 287
25	375.84 ± 1.54	12.00	61	3.19	411 - 350	364.29 ± 1.47	11.60	62	3.18	390 - 341
26	128.25 ± 0.80	6.26	61	4.88	142 - 116	125.18 ± 0.63	5.02	63	4.01	135 - 115
27	127.25 ± 0.99	7.85	63	6.17	144 - 106	122.49 ± 0.89	7.19	65	5.87	138 - 102
28	120.05 ± 0.85	6.72	63	5.60	135 - 108	116.40 ± 0.93	7.39	63	6.35	132 - 100
40	93.47 ± 0.65	4.81	55	5.14	106 - 84	92.37 ± 0.68	4.77	49	5.16	102 - 85
47	117.15 ± 0.94	6.68	52	5.70	129 - 105	109.11 ± 1.00	6.81	46	6.24	128 - 96
48	70.45 ± 0.67	5.04	56	7.15	81 - 58	66.70 ± 0.67	4.80	52	7.19	78 - 55
43	106.36 ± 0.47	3.63	59	3.41	116 - 98	101.88 ± 0.50	4.00	63	3.93	113 - 93
43:1	98.15 ± 0.49	3.81	60	3.88	106 - 91	93.98 ± 0.51	4.02	63	4.27	105 - 87
44	99.23 ± 0.49	3.52	52	3.54	108 - 92.3	95.14 ± 0.56	4.05	52	4.25	105 - 88
49	25.87 ± 0.33	2.22	46	8.58	30 - 21	24.34 ± 0.28	2.00	52	8.20	29 - 20
50	21.65 ± 0.34	2.44	50	11.25	28 - 16.1	20.42 ± 0.34	2.33	46	11.39	26.2 - 15.6
45	134.92 ± 0.69	4.84	49	3.59	146 - 127	125.16 ± 0.64	4.56	51	3.64	136 - 115
46	95.81 ± 0.65	4.75	54	4.96	106 - 87	91.18 ± 0.60	4.26	50	4.67	101 - 79
54	24.20 ± 0.21	1.71	54	7.07	29 - 20.6	24.32 ± 0.30	2.07	48	8.49	29 - 20.4
55	52.33 ± 0.43	3.28	57	6.27	59 - 45	49.89 ± 0.49	3.40	49	6.81	56.5 - 43
51 sin	42.76 ± 0.29	2.08	52	4.86	48 - 38	40.33 ± 0.31	2.13	51	5.52	45 - 35
51 dx	42.92 ± 0.32	2.23	49	5.20	49.5 - 39	40.45 ± 0.33	2.31	48	5.70	45 - 36
52 sin	33.96 ± 0.25	1.90	56	5.59	38.2 - 29.7	33.25 ± 0.29	2.18	55	6.54	38.4 - 27.8
52 dx	33.94 ± 0.30	2.16	51	6.36	38.9 - 29.4	33.38 ± 0.31	2.20	50	6.58	38.7 - 27.3
62	45.83 ± 0.32	2.20	46	4.80	51.2 - 41	44.36 ± 0.46	3.07	45	6.92	50 - 35
63	41.33 ± 0.34	2.64	60	6.39	46 - 36	39.46 ± 0.35	2.53	51	6.40	44.5 - 33.4
64	13.03 ± 0.39	2.58	43	19.80	19.3 - 5.4	11.03 ± 0.43	2.83	44	25.60	18 - 6
72	85.79 ± 0.31	3.79	56	4.41	92 - 77	84.46 ± 0.48	3.37	49	3.98	92 - 75
72:3	42.29 ± 0.53	3.92	55	9.27	51.9 - 35.1	41.10 ± 0.47	3.27	46	7.95	47.9 - 34.3
72:5	64.17 ± 0.46	3.43	58	5.33	72.3 - 53.7	65.70 ± 0.56	3.87	48	5.88	74.6 - 58.2
72:5	73.55 ± 0.52	3.82	55	5.19	82.9 - 64.1	73.22 ± 0.53	3.67	48	5.01	81.3 - 64.4
65	119.58 ± 0.66	4.78	52	3.99	130 - 107	114.89 ± 0.78	5.71	53	4.98	129 - 102
66 *	99.07 ± 0.79	6.19	61	6.25	113 - 84	91.97 ± 0.64	5.04	62	5.48	101 - 82
68 *	79.76 ± 0.63	4.87	60	6.10	92 - 71	75.11 ± 0.62	4.89	63	6.50	86 - 56
Cd-Mt *	126.67 ± 0.75	5.79	60	4.57	139 - 116	118.81 ± 0.82	6.43	61	5.41	132 - 96.5
69	34.14 ± 0.34	2.58	57	7.56	42 - 27.8	30.18 ± 0.42	3.20	58	10.60	39.3 - 17.2
P_1H *	33.52 ± 0.34	2.62	59	7.80	39.6 - 27.3	30.59 ± 0.37	2.83	60	9.24	36.7 - 25.1
M_1H *	29.11 ± 0.35	2.70	58	9.28	34.8 - 24.6	26.03 ± 0.36	2.64	55	10.12	31.2 - 19.8
M_2P_1 *	27.31 ± 0.21	1.61	57	5.89	31 - 24.3	26.35 ± 0.21	1.47	51	5.56	28.9 - 22.6
69:3	11.85 ± 0.18	1.39	62	11.73	14.8 - 9	10.82 ± 0.18	1.45	66	13.36	14.5 - 8
Cd-Go *	67.08 ± 0.65	5.03	66	7.50	78 - 58	60.89 ± 0.62	4.92	63	8.07	73.5 - 47.0
71	34.00 ± 0.33	2.54	61	7.47	40.5 - 27.2	31.77 ± 0.37	2.95	65	9.28	37.6 - 25.2
70:3	14.00 ± 0.20	1.56	58	11.15	18.2 - 10.5	12.25 ± 0.20	1.57	63	12.78	19.1 - 8.5
71:1	33.97 ± 0.52	3.93	58	11.57	44.1 - 26.3	33.48 ± 0.46	3.65	64	10.09	42.8 - 25.6
Ang. *	118.93 ± 0.81	6.25	60	5.25	130 - 103.5	121.02 ± 0.53	6.64	64	5.48	138 - 106
Alv. *	9.87 ± 0.69	5.09	55	51.57	21.6 - (-0.9)	10.17 ± 0.61	4.32	50	42.41	18.2 - 0.6
79:1	97.83 ± 1.23	8.53	48	8.72	116 - 80	97.68 ± 1.33	8.40	40	8.60	120 - 85
79:4	70.10 ± 0.57	4.46	62	6.36	80 - 51.5	69.59 ± 0.37	4.55	63	6.53	81.5 - 60
8/1 · 100	75.77 ± 0.40	3.11	61	4.10	82.02 - 67.01	75.33 ± 0.39	3.13	66	4.15	83.93 - 66.84
17/1 · 100	70.80 ± 0.44	3.45	61	4.87	77.19 - 61.17	71.05 ± 0.41	3.24	64	4.56	77.01 - 64.80
17/8 · 100	93.42 ± 0.61	4.79	62	5.12	102.22 - 79.31	94.35 ± 0.58	4.63	64	4.90	104.76 - 83.67
20a/1 · 100	60.39 ± 0.28	2.17	61	3.59	64.84 - 56.38	61.02 ± 0.25	2.35	64	3.84	66.76 - 56.08
20a/8 · 100	79.77 ± 0.38	2.96	61	3.71	87.69 - 73.61	81.08 ± 0.14	3.32	64	4.09	89.15 - 74.82
29/26 · 100	87.90 ± 0.20	1.57	60	1.78	91.55 - 83.09	87.93 ± 0.92	1.52	62	1.72	91.45 - 84.21
30/27 · 100	90.22 ± 0.21	1.55	62	1.72	94.34 - 86.92	90.38 ± 0.14	1.11	65	1.22	93.22 - 86.89
31/28 · 100	81.08 ± 0.35	2.78	62	3.43	86.36 - 71.88	81.91 ± 0.32	2.57	63	3.13	86 - 75
9/10 · 100	81.42 ± 0.41	3.16	59	3.88	87.50 - 72.93	81.98 ± 0.37	3.00	64	3.65	88.24 - 75
9/8 · 100	69.67 ± 0.37	2.90	60	4.16	74.83 - 62.91	69.47 ± 0.40	3.28	66	4.71	76.30 - 63.50
47/45 · 100	87.11 ± 0.69	4.60	44	5.28	96.27 - 75.18	86.93 ± 0.74	4.71	41	5.41	99.22 - 79.20
45/40 · 100 *	143.03 ± 1.24	8.60	48	6.01	169.05 - 128.71	136.24 ± 1.16	7.77	45	5.70	152.94 - 122.45
48/40 · 100 *	74.75 ± 0.95	7.05	55	9.43	89.66 - 61.32	72.16 ± 0.87	6.11	49	8.46	84.88 - 60.40
48/45 · 100 *	52.23 ± 0.54	3.77	48	7.22	58.21 - 42.98	53.00 ± 0.55	3.77	47	7.10	60.47 - 42.31
52/51 · 100 sin	79.37 ± 0.74	5.26	51	6.62	92.31 - 68.70	82.55 ± 0.79	5.64	51	6.83	97.44 - 70.56
52/51 · 100 dx	78.99 ± 0.74	5.05	47	6.39	92.31 - 68.48	82.11 ± 0.82	5.47	45	6.66	95.75 - 72.09
50/44 · 100	21.93 ± 0.35	2.31	44	10.51	27.45 - 16.43	21.42 ± 0.32	2.07	43	9.64	26.73 - 16.87
54/55 · 100	46.67 ± 0.56	4.07	53	8.71	58.33 - 39.24	48.80 ± 0.76	5.14	46	10.52	63.04 - 36.11
64/63 · 100	31.42 ± 0.98	6.40	43	20.35	49.36 - 14.84	27.82 ± 1.01	6.67	44	23.96	41.57 - 13.33
63/62 · 100	90.71 ± 1.00	6.93	48	7.63	111.90 - 76.60	88.59 ± 0.98	6.17	40	6.96	101.95 - 74.22
16/7 · 100	85.17 ± 0.81	6.37	62	7.47	103.45 - 71.43	83.70 ± 0.87	6.52	56	7.78	100.63 - 70.79
68/65 · 100	66.61 ± 0.62	4.45	52	6.67	76.34 - 58.58	65.84 ± 0.63	4.57	53	6.93	76.79 - 53.85
66/65 · 100	82.79 ± 0.58	4.20	52	5.07	91.13 - 71.19	80.22 ± 0.80	5.80	52	7.22	91.74 - 70.25
70:3/71:1 · 100	41.62 ± 0.76	5.82	58	13.97	54.22 - 27.00	36.92 ± 0.73	5.79	63	15.67	53.08 - 24.62
68/Cd-Mt · 100 *	94.78 ± 0.86	4.33	52	4.56	103.36 - 93.58	96.49 ± 0.68	4.94	53	5.11	107.78 - 87.18

Table 18

Constants for the Male and Female Series of Long Bones of Adults in the Västerhus Material.

	Males					Females				
	$\bar{x} \pm \varepsilon_{\bar{x}}$	σ	n	v	Range	$\bar{x} \pm \varepsilon_{\bar{x}}$	σ	n	v	Range
Hum. 1	338,1 ± 2,23	17,55	62	5,19	379 – 303	310,0 ± 2,06	16,05	61	5,18	343 – 260
3	51,6 ± 0,37	2,95	62	5,73	57 – 46	45,6 ± 0,23	1,83	62	4,00	50 – 42,5
4	65,0 ± 0,47	3,67	62	5,64	77 – 58	57,0 ± 0,36	2,86	64	5,01	66 – 52
5	24,1 ± 0,25	1,99	63	8,25	29 – 18,5	20,8 ± 0,18	1,55	71	7,45	26 – 15
6	18,6 ± 0,18	1,43	64	7,67	21,5 – 15	16,0 ± 0,15	1,23	71	7,68	19 – 13
7	64,8 ± 0,57	4,54	63	7,00	76 – 52	55,6 ± 0,38	3,15	70	5,66	63 – 46
Cø	48,5 ± 0,36	2,80	61	5,76	56 – 41,5	42,4 ± 0,23	1,87	66	4,40	46 – 38
C8	44,7 ± 0,34	2,64	62	5,90	51,5 – 39	38,8 ± 0,20	1,64	64	4,21	42 – 34
Gl	4,1 ± 0,12	0,95	63	23,12	6,6 – 1,6	2,9 ± 0,10	0,87	72	29,79	5,0 – 1,1
8	145,9 ± 1,06	8,20	62	5,62	169 – 125	127,6 ± 0,70	5,55	63	4,34	137 – 114
6/5 · 100	77,5 ± 0,63	5,02	63	6,47	91,3 – 66,7	76,8 ± 0,73	6,10	69	7,94	88,9 – 65,6
7/1 · 100	19,2 ± 0,13	1,00	62	5,21	22,2 – 16,5	17,9 ± 0,14	1,14	63	6,33	20,4 – 15,0
Rad. 1	253,0 ± 1,76	13,05	55	5,16	281 – 224	227,3 ± 1,74	13,45	60	5,92	252 – 184
2	236,1 ± 1,62	12,15	56	5,15	262 – 207	211,2 ± 1,66	12,85	60	6,03	238 – 170
3	42,8 ± 0,43	3,26	58	7,60	58 – 34	35,5 ± 0,30	2,53	73	7,11	40,5 – 28,0
4	17,0 ± 0,18	1,37	58	8,05	21 – 14	14,8 ± 4,31	36,85	73	9,41	18 – 11,5
5	12,0 ± 0,13	0,99	58	8,28	14 – 10	10,0 ± 0,08	0,67	73	6,72	11,5 – 8,5
Gl	3,5 ± 0,92	0,70	58	20,07	5,6 – 1,9	2,6 ± 0,06	0,50	72	19,22	3,8 – 1,5
3/2 · 100	18,2 ± 0,17	1,31	56	7,19	22,9 – 15,4	16,5 ± 0,17	1,30	61	7,83	19,1 – 13,9
5/4 · 100	70,9 ± 0,77	5,88	58	8,28	87,5 – 60,5	67,8 ± 0,66	5,60	72	8,26	84,6 – 54,5
Uln. 1	273,3 ± 1,73	12,85	55	4,70	301 – 245	248,9 ± 1,81	12,25	46	4,92	270 – 212
2	241,4 ± 1,61	11,95	55	4,95	268 – 214	218,6 ± 1,52	11,25	55	5,15	240 – 182
3	38,0 ± 0,33	2,84	59	7,47	44 – 30,5	32,3 ± 0,64	4,67	48	14,46	37,5 – 24
3/2 · 100	15,8 ± 0,13	0,95	55	6,02	17,8 – 13,6	15,0 ± 0,17	1,29	55	8,59	18,1 – 11,7
Sacr. 1	126,4 ± 1,48	11,10	55	8,78	148 – 108	115,9 ± 1,28	9,34	56	8,23	141 – 90
2	109,3 ± 1,62	12,15	56	11,11	132 – 84	100,2 ± 1,31	9,69	55	9,67	128 – 78
5	117,0 ± 1,03	8,00	60	6,83	142 – 99	115,4 ± 0,82	6,58	64	5,70	130 – 99
6	27,0 ± 0,74	5,52	55	20,48	39,5 – 15,0	25,1 ± 0,80	6,00	56	23,94	40,5 – 7,0
9	95,1 ± 0,99	7,45	56	7,83	112 – 76	92,7 ± 0,85	6,60	61	7,12	108 – 79
18	34,8 ± 0,43	3,29	59	9,47	44 – 28	31,1 ± 0,30	2,46	68	7,91	37 – 27
19	57,9 ± 0,86	6,70	61	11,57	80 – 46,5	53,0 ± 0,60	4,99	69	9,41	65 – 44,5
22	62,2 ± 0,90	6,90	59	11,10	81 – 51	57,9 ± 0,56	4,64	68	8,00	73 – 50
5/2 · 100	108,6 ± 1,77	13,25	55	12,11	137,5 – 81,1	116,3 ± 1,52	10,95	52	9,42	142,0 – 93,8
9/5 · 100	81,8 ± 0,71	5,38	57	6,58	100 – 73,6	80,2 ± 0,51	3,96	60	4,94	89,4 – 72,0
2/1 · 100	86,4 ± 0,60	4,50	56	5,21	94 – 72,9	86,6 ± 0,70	5,20	55	6,00	96,3 – 74,5
6/2 · 100	25,2 ± 0,85	6,29	55	25,00	41,5 – 12,6	26,5 ± 1,16	8,59	55	32,40	68 – 14,2
18/19 · 100	60,2 ± 0,78	5,90	57	9,80	75,6 – 52,3	59,6 ± 0,75	6,11	67	10,25	85,5 – 46,7
Pelv. 1	224,6 ± 1,58	12,45	62	5,54	247 – 197	201,6 ± 1,12	9,59	73	9,50	222 – 178
2	270,8 ± 2,24	17,35	60	6,41	305 – 231	261,9 ± 1,84	14,25	60	5,44	301 – 233
3	173,7 ± 1,66	12,05	53	6,94	217 – 152	168,2 ± 1,72	11,40	44	6,78	189 – 138
8	227,9 ± 2,51	18,95	57	8,32	265 – 191	223,4 ± 2,26	17,05	57	7,63	274 – 190
23	100,9 ± 1,33	9,77	54	9,68	124 – 79	121,1 ± 6,63	45,90	48	37,83	250 – 83
23:2	119,8 ± 1,41	10,35	54	8,64	139 – 101	116,2 ± 1,57	10,85	48	9,34	147 – 98
24	126,3 ± 1,08	8,20	58	6,50	143 – 101	130,5 ± 1,30	10,15	61	7,78	155 – 114
26	103,1 ± 1,41	10,15	52	9,84	125 – 83	109,4 ± 1,71	11,10	42	10,14	135 – 78
27	96,6 ± 1,35	10,25	58	10,61	129 – 76	108,9 ± 1,42	11,10	61	10,19	132 – 75
33	61,7 ± 1,28	8,96	49	14,52	85 – 44	74,4 ± 1,54	9,38	37	12,61	95 – 54
1/2 · 100	83,0 ± 0,59	4,56	59	5,50	94 – 77,2	77,2 ± 0,45	3,48	60	4,50	89,5 – 71,5
23/24 · 100	80,7 ± 1,21	8,89	54	11,01	98,5 – 99,8	78,5 ± 1,26	8,75	48	11,15	106,4 – 61,7
26/27 · 100	108,4 ± 1,97	14,10	51	13,01	143,7 – 85,1	101,8 ± 1,81	11,70	42	11,50	146,7 – 82,1
24/2 · 100	46,5 ± 0,35	2,69	58	5,77	54,0 – 41,1	50,1 ± 0,32	2,46	59	4,90	56,9 – 44,5
Fem. 1	468,8 ± 3,08	24,05	61	5,13	530 – 421	424,1 ± 3,02	25,45	71	6,00	475 – 357
2	465,3 ± 3,05	23,85	61	5,12	528 – 419	420,3 ± 1,28	10,75	71	5,89	465 – 352
8	88,9 ± 0,81	6,39	62	7,19	101 – 72	78,2 ± 0,55	4,73	75	6,04	86 – 66
20	151,6 ± 1,18	9,32	62	6,06	185 – 137	135,7 ± 0,94	7,86	70	5,86	162 – 118
21	81,9 ± 0,53	4,07	60	4,96	89 – 72	72,2 ± 0,44	3,54	65	4,89	80 – 61
29	132,5 ± 0,56	4,40	61	3,32	143 – 122	131,7 ± 0,50	4,19	71	3,18	141 – 123
6	29,1 ± 0,33	2,63	62	9,03	34 – 23	25,2 ± 0,26	2,28	75	9,04	29 – 18,5
7	28,5 ± 0,29	2,28	62	8,00	34 – 23,5	25,4 ± 0,20	1,69	75	6,63	29,5 – 20
Gl	5,5 ± 0,13	0,98	62	17,87	7,9 – 3,2	4,2 ± 0,09	0,80	74	19,14	6,0 – 1,9
8/2 · 100	19,1 ± 0,13	1,01	61	5,25	20,9 – 16,3	18,6 ± 0,12	0,98	71	5,29	20,5 – 16,3
6+7/2 · 100	12,4 ± 0,09	0,71	61	5,65	14,4 – 10,8	12,0 ± 0,08	0,67	73	5,76	13,7 – 10,5
6/7 · 100	102,4 ± 1,12	8,79	62	8,58	124,1 – 86,5	99,6 ± 1,09	9,41	75	9,47	123,0 – 85,2
Tib. 1	372,3 ± 2,79	21,05	57	5,65	413 – 321	338,6 ± 2,65	22,45	72	6,63	386 – 273
1a	380,8 ± 3,28	24,75	57	5,76	422 – 328	339,8 ± 5,34	44,95	71	6,46	390 – 273
3	76,5 ± 0,53	4,07	60	5,32	85 – 65	67,4 ± 0,41	3,50	72	5,18	76 – 61
6	53,3 ± 0,38	2,90	58	5,43	59,5 – 46	47,3 ± 0,38	3,23	74	6,82	66 – 42
8	30,4 ± 0,31	2,45	61	8,04	39 – 25,5	27,4 ± 0,24	2,10	75	7,66	31,5 – 23
8a	34,8 ± 0,37	2,88	62	8,27	42 – 29,5	29,8 ± 0,25	2,19	75	7,34	34 – 24
9	22,3 ± 0,25	1,93	61	8,62	26 – 18,5	19,6 ± 0,16	1,42	74	7,24	25 – 17
9a	25,3 ± 0,33	2,57	62	10,14	32 – 20	21,3 ± 0,20	1,78	75	8,22	27 – 17,5
10b	73,0 ± 0,65	5,14	62	7,04	92 – 63,5	65,6 ± 0,51	4,40	73	6,70	77 – 57
Gl	4,7 ± 0,16	1,29	62	27,15	8,6 – 2,0	3,6 ± 0,10	0,84	75	23,66	5,8 – 1,6
9/8 · 100	73,6 ± 0,69	5,40	61	7,33	84,2 – 58,7	73,6 ± 0,70	6,01	74	8,16	89,1 – 62,5
10b/1 · 100	19,6 ± 0,14	1,03	57	5,23	22,5 – 17,1	19,4 ± 0,16	1,36	71	7,00	25 – 17,2
9a/8a · 100	72,9 ± 0,69	5,44	62	7,46	86,1 – 58,8	71,6 ± 0,63	5,49	75	7,64	91,5 – 59,1
Fibu. 1	373,2 ± 3,02	20,05	44	5,37	408 – 321	333,6 ± 3,23	21,65	45	6,49	369 – 276
2	15,2 ± 0,21	1,59	61	10,41	18,5 – 11	13,9 ± 0,18	1,48	71	10,60	17 – 10
3	11,5 ± 0,17	1,29	61	11,21	15 – 8	10,4 ± 0,15	1,29	71	12,33	14 – 7
4	44,0 ± 0,61	3,98	62	9,04	52 – 33	40,2 ± 0,50	4,21	71	10,47	51 – 28,5
4a	35,0 ± 0,49	3,85	62	10,95	43 – 29	32,4 ± 0,58	4,82	69	14,86	50 – 23,5
4:1	28,6 ± 0,39	2,50	41	8,74	35 – 23,5	24,4 ± 0,34	2,31	47	9,44	29 – 19,5
4:2	28,1 ± 0,28	2,17	58	7,71	32,5 – 23	24,0 ± 0,27	2,18	67	9,07	35 – 20,5
3/2 · 100	75,7 ± 1,12	8,74	61	11,54	96 – 51,6	74,9 ± 0,97	8,16	71	10,88	88,5 – 59,4
4a/1 · 100	9,4 ± 0,15	1,00	44	10,69	12,3 – 8,0	9,2 ± 0,16	1,06	44	11,44	11,3 – 7,0

Coded Material Description

and

Skull Photographs

Table 19

Form Used by the Institute of Human Anatomy, University of Lund, for Anthropological Laboratory and Field Work.

Cranium description.

Ref. No. ....

General character: Colour: uneven, mottled, light, dark, white, yellow, brown, red, grey, black .... Condition: poorly, very, well, preserved, complete, decomposed, i. v., p. m., damaged .... broken pieces: .... portions: .... Can not, fairly, easily, be restored .... Structure: moderately, medium, frail, slender, heavy, massive .... Size: moderately, medium, small, large. Horizontal circumference: only, fully ______ cm. Capacity: after, with ______________ cc, oligen-, euen-, aristen-cranial .... Dentition: present ______________ missing ______________ lost i. v. ______________ lost p. m. ______________, degree of attrition ______________, caries ______________.

Sutures: Coronalis: bregm. + -, compl. + -, temp. + -. Sagittalis: bregm. + -, vert. + -, obel. + -, post. + -. Lambdoidea: lambd. + -, media. + -, aster. + -. Sutural bones: .... Linea temp.: mod., poorly, well, developed. Muscular attachments: mod., medium, weak, strong .... Sex: male, female, infant, allophysis. Age: ______ years, months.

Norma verticalis: asymmetrical, irregular, General shape: ellipsoidal, pentagonoidal, rhomboidal, ovoid, sphenoidal, spheroidal, brisoidal .... Deformations: natural, artificial, i. v., p. m., slight, tendency towards, marked .... pronounced, crossed, plagiocephaly .... Tubera front.: mod., incipient, unpronounced, absent, well developed .... Tubera pariet.: mod., incipient, unpronounced, absent, well developed .... L-B. I.: ______________, dolichosteno-, meso-, brachyeury-cranial.

Norma occipitalis: asymmetrical, irregular .... General shape: mod., medium, high, low, narrow, broad. Crown contour: even, curved flat, slight, marked, crest. Lateral contours: straight, slightly curved, parallel, converging upwards, downwards, pentagonoidal, house-shaped, bomb-shaped. Tub. pariet.: high, low, regular .... Protub. occ. ext.: mod., medium, weak, well, heavy, ridged, incipient, developed .... Proc. mastoidei: mod., medium, small, short, large, long, pointed, blunt .... B-H. I.: ______________, eurychamae-, metrio-, stenohypsi-cranial. B-OBH I.: ______________, eurychamae-, metrio-, stenohypsi-cranial.

Norma lateralis: Curva sagittalis: uneven, asymmetrical, irregular, flattening in .... region, faint, slight, marked, retrocoronary clinocephaly, no, some, mod., pronounced, angularity between squama and planum nuchale, no, some, mod., well developed, bathrocephaloid offset .... Root of the nose: not, faintly, weakly, mod., well, strongly, marked, incipient, retracted .... Glabella: not, faintly, weakly, mod., well, strongly, ridged, incipient, projecting. Forehead: mod., domed, flat, receding, steep .... Sagitt. Front.-I.: ______________, ortho-, chamae-metopic .... Face: not, faintly, mod., markedly, strongly, projecting. Facial angle: ______ °, pro-, meso-, ortho-gnathic. No, faint, mod., pronounced, subnasal prognathism. Angle of basion: ______ °, nasion: ______ °, prosthion: ______ °. Face: mod., shallow, deep. External auditory canals: mod., narrow, wide, no exostoses sin., dx .... L-H. I.: ______________ dolichochamae-, ortho-, brachyhypsi-cranial.

Norma facialis: asymmetrical, irregular .... General shape: mod., medium, low, broad, high, narrow .... Forehead: mod., medium, narrow, constricted, broad, high. Transv. Front.-I.: ______________, sphero-, parallelo-metopic. Transv. Fronto-Pariet-I.: ______________, steno-, metrio-, eury-metopic. Superciliary arches: mod., not, faint, heavy, ridged .... Tubera front.: mod., not, faint, well, developed .... Trigona supraorb.: mod., small, large, flat, concave, convex .... Face: mod., medium, low, broad, high, narrow .... Zygomatic arches: mod., not, faintly, slightly, markedly, decidedly, strongly, outcurving .... Upper facial length-breadth index (Hjortsjö): ______________, dolichosteno-, meso-, brachyeury-facial. Upper facial length-height index (Hjortsjö): ______________, dolichochamae-, ortho-, brachyhypsi-facial. Upper facial breadth-height index (Hjortsjö): ______________, eurychamae-, metrio-, stenohypsi-facial. Orbital apertures: asymmetrical, rounded, angular, high, low, oblique, broad axes at right-angles, convergent, faintly, slightly, markedly, upwards, downwards. Margins rounded, sharp .... Orbital-I.: sin. ______, dx. ______, chamae-meso-hypsi-conchous. Root of the nose: mod., narrow, broad .... Nasal aperture: mod., medium, low, broad, high, narrow. Margin: not sharp, tendency towards, marked, sulcus prenasalis. Spina nasalis: mod., faint, heavy, pointed .... Nasal-I.: ______________, chamae-, meso-, lepto-rrhine. Nasal bone: mod., narrow, broad, uniformly narrow, broad, narrowing upwards, downwards, at middle, arched, united under angle .... Nasal ridge: mod., narrow, broad, concave, convex, straight .... S-shaped ....

Norma basalis: asymmetrical, irregular. Foramen magnum: mod., medium, narrow, broad, mod., large, small. Index: ______ . Palate: mod., medium, high, narrow, broad, shallow .... H-B. I.: ______________, eurychamae-, metrio-, stenohypsi-staphline, mod., medium, short, long. L-B. I.: ______________, dolichosteno-, meso-, brachyeury-staphyline. Alveolar arcade: paraboloid, horse-shoe, U-shaped, asymmetrical, irregular.

Remarks:

List of Cranial indices (Institute of Human Anatomy, University of Lund).

1. Brain-case capacity in cc (after Sarasin)

	Males	Females
oligencraneous	X - 1300	X - 1150
euencraneous	1301 - 1450	1151 - 1300
aristencraneous	1451 - X	1301 - X

2. Length-breadth-index of the skull = $\frac{\text{Maximum skull breadth (8)} \cdot 100}{\text{Maximum cranial length (1)}}$

	Old range	new range	Tres indices Fürst
dolichostenocraneous	X - 74,99	X - 75,49	1
mesocraneous	75,00 - 79,99	75,50 - 79,49	2
brachyeurycraneous	80,00 - X	79,50 - X	3

3a. Length-height-index of the skull = $\frac{\text{Basibregmatic height (17)} \cdot 100}{\text{Maximum cranial length (1)}}$

	Old range	new range	Tres indices Fürst
dolichochamaecraneous	X - 69,99	X - 71,49	1
orthocraneous	70,00 - 74,99	71,50 - 75,49	2
brachypypsicraneous	75,00 - X	75,50 - X	3

3b. Length- (Ear-bregma-height) index of the skull = $\frac{\text{OBH (20)} \cdot 100}{(1)}$

	Old range	new range	Tres indices Fürst
dolichochamaecraneous	X - 75,99	X - 61,49	1
orthocraneous	58,00 - 62,99	61,50 - 64,99	2
brachyhypsicraneous	63,00 - X	65,00 - X	3

4a. Breadth-height-index of the skull = $\frac{\text{Basibregmatic height (17)} \cdot 100}{\text{Maximum cranial breadth (8)}}$

	Old range	new range	Tres indices Fürst
eurychamaecraneous	X - 91,99	X - 91,99	1
metriocraneous	92,00 - 97,99	92,00 - 97,99	2
stenohypsicraneous	98,00 - X	98,00 - X	3

4b. Breadth- (Ear-bregma-height) index = $\frac{\text{OBH (20)} \cdot 100}{(8)}$

	Old range	new range	Tres indices Fürst
eurychamaecraneous	X - 79,99	X - 79,99	1
metriocraneous	80,00 - 85,99	80,00 - 82,99	2
stenohypsicraneous	86,00 - X	83,00 - X	3

5. Transverse frontal-index = $\frac{\text{Minimum frontal breadth (9)} \cdot 100}{\text{Maximum frontal breadth (10)}}$

spherometopic	less than 80
parallelometopic	over 100

6. Transverse frontoparietal index = $\frac{\text{Minimum frontal breadth (9)} \cdot 100}{\text{Maximum skull breadth (8)}}$

stenometopic	X - 65,99
metriometopic	66,00 - 68,99
eurymetopic	69,00 - X

7. Sagittal-frontal-index = $\frac{\text{Nasion-bregma chord (29)} \cdot 100}{\text{Nasion-bregma arch (26)}}$

orthometopic	less than 90
chamaemetopic	over 90

8. Index of foramen magnum = $\frac{\text{Breadth of the foramen (16)} \cdot 100}{\text{Length of the foramen (7)}}$

narrow	X - 81,99
of medium breadth	82,00 - 85,99
broad	86,00 - X

9. Facial angle (72) (Profile angle)

prognathous	X^{0} - $79,9^{0}$
mesognathous	$80,0^{0}$ - $84,9^{0}$
orthognathous	$85,0^{0}$ - X^{0}

10. Upper facial length-breadth-index (Hjortsjö) = $\frac{\text{Bizygomatic breadth (45)} \cdot 100}{\text{Facial length (40)}}$

		Tri fac.
dolichostenofacial	X - 132,99	1
mesofacial	133,00 - 139,49	2
brachyeuryfacial	139,50 - X	3

11. Upper facial length-height-index (Hjortsjö) = $\frac{\text{Upper facial height (48)} \cdot 100}{\text{Facial length (40)}}$

		Tri fac.
dolichochamaefacial	X - 69,99	1
orthofacial	70,00 - 74,99	2
brachyhypsifacial	75,00 - X	3

12. Upper facial breadth-height-index (Hjortsjö) = $\frac{\text{Upper facial height (48)} \cdot 100}{\text{Bizygomatic breadth (45)}}$

		Tri fac.
eurychamaefacial	X - 51,99	1
metriofacial	52,00 - 54,49	2
stenohypsifacial	54,50 - X	3

13. Orbital index = $\frac{\text{Orbital height (52)} \cdot 100}{\text{Orbital breadth (51)}}$

chamaeconchous	X - 75,99
mesoconchous	76,00 - 84,99
hypsiconchous	85,00 - X

14. Nasal index = $\frac{\text{Nasal breadth (54)} \cdot 100}{\text{Nasal height (55)}}$

leptorrhinec	X - 46,99
mesorrhinec	47,00 - 50,99
chamaerrhinec	51,00 - X

15. Palatal index = $\frac{\text{Palatal breadth (63)} \cdot 100}{\text{Palatal length (62)}}$

dolichostenostaphyline	X - 79,99
mesostaphyline	80,00 - 84,99
brachyeurystaphyline	85,00 - X

16. Palatal height index = $\frac{\text{Height (64)} \cdot 100}{\text{Breadth (63)}}$

eurychamaestaphyline	X - 27,99
metriostaphyline	28,00 - 39,99
stenohypsistaphyline	40,00 - X

17. Schedule of suture closure (large individual variations)

	Sutura coronalis			Sut. sagittalis				Sut. lambdoidea		
	Pars			Pars				Pars		
age, years	breg.	compl.	temp.	br.	vert.	obel.	post.	lambd.	media	aster
20 - 30	-	-	-	-	(+)	+	-	-	-	-
30 - 40	-	-	+	-	+	+	+	-	-	-
over 40	+	-	+	+	+	+	+	+	+	+

18. Index mandibulae = $\frac{\text{Condylar breadth (65)} \cdot 100}{\text{Condylo-mental line}}$ (Lindegård, Sonesson 1952)

dolichostenomandibular	X - 97,99
mesomandibular	98,00 - 104,99
brachyeurymandibular	105,00 - X

19. Mandibular breadth-index (after Hjortsjö)

rami swinging outwards	X - 79,99
rami not swinging outwards	80,00 - 84,99
rami parallel	85,00 - X

20. Length-breadth-index of ramus (after Hjortsjö)

ramus long and narrow	X - 51,99
ramus of medium breadth	52,00 - 56,99
ramus low and broad	57,00 - X

21. Angulus mandibulae

less than 108^{0} = very small
$108 - 112^{0}$ = small $112 - 120^{0}$ = medium
$120 - 124^{0}$ = large over 124^{0} = great

A: Cranium. General description.
a: Colour. 1=light(-er) 2=dark(-er) 3=whitish 4=yellowish 5=brownish 6=reddish 7=greyish 8=blackish
b: State. 1=complete 2=well preserved 3=damaged intra vitam (in ... region) 4=damaged post mortem (in ... region) Ba=basal Br=Bregmatic Et=Ethmoidal ... Fc=facial skeleton crushed Fr=Frontal La=Lambdoidal Ma=mastoidal Mn=mandible (mandibular) Mx=Maxilla (maxillar) Na=Nasal Or=Orbital Pa=Parietal Sq=Squamosal Zy=Zygomatic ... (d=right s=left) 5=weathered (in ... reg.) 6=restored 7=cannot be restored 8=defective (fragmentary) 9=missing
c: Robusticity. 0-3
d: Size, capacity. 1=oligo- 2=euen- 3=aristen-cranial
e: Dentition. (The figure below shows the deciduous and permanent dentition; see also A:j)

00000 + 00000
00000A00 + 00000000
00000000 - 00000000
00000 - 00000

A=apical or periapical access in ... 1=lost intra vitam K=caries D=remaining post mortem 4=erupting P=persisting R=rotated T=impacted X=lost post mortem Y=deviated (f. alv. arc)
f: Attrition 0-3
g: Parodontosis 0-3
h: Tartar 0-3

A:j. concerning dentition in infants and adolescents:
A=crown 1/3 formed
B= " 1/2 "
C= " 2/3 "
D= " 3/4 "
E= " 1/1 "
F= tooth erupting
G= tooth complete but no attrition
H= tooth complete attrition started
J= tooth completely worn down, not shed
K= tooth shed
L= tooth impacted
M= tooth rotated

A:k. Sutural state
ka: Sutura coronalis part 1, 2 and 3
kb: Sutura sagittalis part 1, 2, 3 and 4
kc: Sutura lambdoidea part 1, 2 and 3
- = open, + = obliterated
kd: Sutural bones in sutura: Co, Sa, La
ke: Persisting metopic suture [all]

A:l. Linea temporalis 0-3 for its development and visibility

A:m. Muscular attachments 0-3 for development vs. prominence.

B: Norma verticalis.
a: General description 0=irregular
b: Shape. 1=ellipsoidal 2=pentagonoidal 3=rhomboidal 4=ovoid 5=sphenoidal 6=spheroidal 7=bRiselidal
c: Deformation. 1=natural 2=artificial 3=intra vitam 4=post mortem 5=slightly 6=tendency towards 7=marked 8=crossed s=left d=right (sided) 9=plagiocephaly
d: Tubera frontalia 0-3 for development
e: Tubera parietalia 0-3 for development
f: L-B-I = Length-Breadth index 1=dolichostenocranial 2=meso- 3=brachyeury-cranial (cf. index list)

C: Norma occipitalis.
a: General description 0=irregular
b: Shape 1=moderately 2=medium 3=high 4=low 5=narrow 6=broad
c: Crown outline, contour 1=even(ly) 2=curved 3=flat 4=with gentle 5=with distinct 6=crest
d: Lateral outline, contours 1=straight 2=slightly 3=parallel 4=converging 5=downwards 6=upwards 7=pentagonoidal house-shaped 8=bomb-shaped
e: Tubera parietalis (position of) 1=high 2=low
f: Protuberantia occipitalis externa, 0-3 for prominence
g: Processus mastoidei. 1=moderately 2=medium 3=small 4=large 5=long 6=short c=pointed d=blunt
h: Breath-Height index or B-H-I and
j: Breadth-Ear-Bregma-Height index or B-OBH-I 1=eurychamae- 2=metrio- 3=stenohypsi-cranial (cf index list)

D: Norma lateralis.
a: Sagittal curve 1=uneven 2=even 3=irregular 4=flattened in the ... region/see A:b4/ 5=retrocoronary clinocephaly 6=marked angle between squama and planum nuchale 7=slight 8=moderate 9=marked bathrocephalous offset in the occipital section
b: Root of the nose 0-3 for its marking (retraction)
c: Glabella as above 0-3 for its degree of prominence
d: Forehead 1=moderately 2=domed 3=flat 4=narrow 5=steep
e: Sagittal frontal index 1=ortho- 2=chamaemetopic
f: Face 0-3 for prognathism
g: Facial angle 1=pro- 2=meso- 3=orthognathic
h: Subnasal prognathism 0-3
j: Face is characterized by facial triangle as: 1=shallow 2=deep
k: External auditory canals 1=moderately 2=narrow 3=wide 4=with exostoses in os tympani dx., sin.
l: Length-Height index or L-H-I 1=dolichochamae- 2=ortho- 3=brachyhypsicranial (cf. index list)
m: Length index or L-OBH-I (Ear-Bregma-height) 1=dolichochamae- 2=ortho- 3=brachyhypsicranial (cf. index list).

E: Norma facialis
a: General characteristics 0=asymmetrical
b: Shape. 1=medium 2=low 3=broad 4=narrow 5=high
c: Forehead 1=moderate 2=medium 3=narrow 4=narrowing at the temples 5=broad 6=high 7=low
d: Transverse frontal index 1=sphero- 2=sphero-parallelo- 3=parallelo-metopic
e: Transverse frontoparietal index 1=steno- 2=metrio- 3=eurymetopic
f: Superciliary arches 0-3 for protrusion
g: Tubera frontalis 0-3 for development
h: Supraorbital trigon 0-3 for size a=flat b=concave c=convex
j: Face 1=moderately 2=medium 3=low 4=broad 5=high 6=narrow
k: Zygomatic arches 0-3 for curvature
l: Upper facial length-breadth index or OA-I-b-I (Hjortsjö) 1=dolichosteno- 2=meso- 3=brachyeury-facial (cf. index list)
m: Upper facial length-height index or OA-I-h-I (Hjortsjö) 1=dolichochamae- 2=ortho- 3=brachyhypsi-facial
n: Upper facial breadth-height index or OA-b-h-I (Hjortsjö) 1=eurychamae- 2=metrio- 3=stenohypsi-facial
o: Orbits 0=asymmetrical 2=rounded 3=angular 4=high 5=medium-high 6=low 7=sloping 8=breadth-axis a=in straight line b=converging c=upwards d=downwards e=edges rounded f=edges sharp
p: Orbital index s=left side d=right side 1=chamae- 2=meso- 3=hypsi-conchous
q: Root of the nose 1=narrow 2=medium (-) 3=broad
r: Opening of the nose 1=narrow 2=medium 3=broad 4=high below a=sharply limited v=vaguely limited p=prenasal sulci 1-3 for development
s: Nasal spine 1, 2, 3 for development
t: Nasal index 1=chame- 2=meso- 3=lepto-rrhine
u: Nasal bone 1=narrow 2=medium 3=broad 4=evenly narrow /broad/ 5=narrowing upwards and downwards seen in the middle 6=united arch-like 7=united at angle
v: Ridge of the nose 1=moderately 2=narrow 3=broad 4=concave 5=convex 6=straight 7=angular 8=S-shaped.

F: Norma basalis.
a: General characteristics 0=irregular asymmetrical
b: Foramen magnum 1=medium 2=moderate 3=narrow 4=broad 5=large 6=small 0=asymmetrical
c: Palate 1=moderate 2=medium 3=high 4=narrow 5=broad 6=shallow 7=short 8=long
d: height-breadth-index 1=eurychamae- 2=metrio- 3=steno-physistaphyline (cf index list)
e: breadth-length-index 1=dolichosteno- 2=meso- 3=brachyeury-staphyline
f: Torus palatinus 0-3 for development
g: alveolar arcade: 1=paraboloid 2=horse-shoe-shaped 3=U-shaped 0=irregular

G: Mandible (Dentition see A:e
a: Robusticity 0-3
b: Muscular attachments: 1, 2, 3
c: Lower contour-line to horizontal 1=concave 2=parallel 3=convex (="rocking mandible")
d: Protuberance and tubercle development of 0-3 a=single b=double
e: Index mandibulae 1=dolichosteno- 2=meso- 3=brachyeurymandibular
f: Angulus mandibulae 1=very small (below 108°) 2=small (108-112°) 3=medium (112-120°) 4=large (120-124°) 5=very large (over 124°)

H: Skeleton.
a: Colour see A:a
b: State 1=complete 2=well preserved 3=damaged intra vitam 4=damaged post mortem ... (in region) 5=restored 6=weathered ... (in reg.) 7=defective Ep=epiphyses C=vertebral column Hu=humerus Ra=radius Ul=ulna Fe=femur Ti=tibia Fi=fibula Pe=pelvis Sa=sacrum d=(right s=)s(left)-side
c: Robusticity 0-3
d: Muscular attachments 1, 2, 3 for prominence
e: thickness of corticalis (after Gejvall) 1-3
f: type and dimensions of capita humeri and femoris ♀ ♂ and ?
g: type of the pelvis ♀ ♂ 1=incisurae ischiadicae majores U-shaped (closed = male) 2=inc. isch. maj. open V-shaped (=female) 3=foramina obturatae large bean-shaped 4=for. obt. trigonoid 5=remarks

H:h concerning individuals of Inf. I, II or Juv. (adolescents).
Preserved diaphyses of the following shaft-bones: (abbreviations see H:b above).

J: Pathology, injuries, asymmetry etc.
1=pathological changes. 2=blows or fractures, fresh or healed. 3=postorbital processus 4=asymmetries.

K: "Discrete traits": a=development of bony bridge in atlas 0-4 b=spina bifida occulta c=perforatio fossae olecrani. d, s. d=shovel-shaped incisors 1 and/or 2 e=number of vertebrae incorporated in sacrum (4-7).

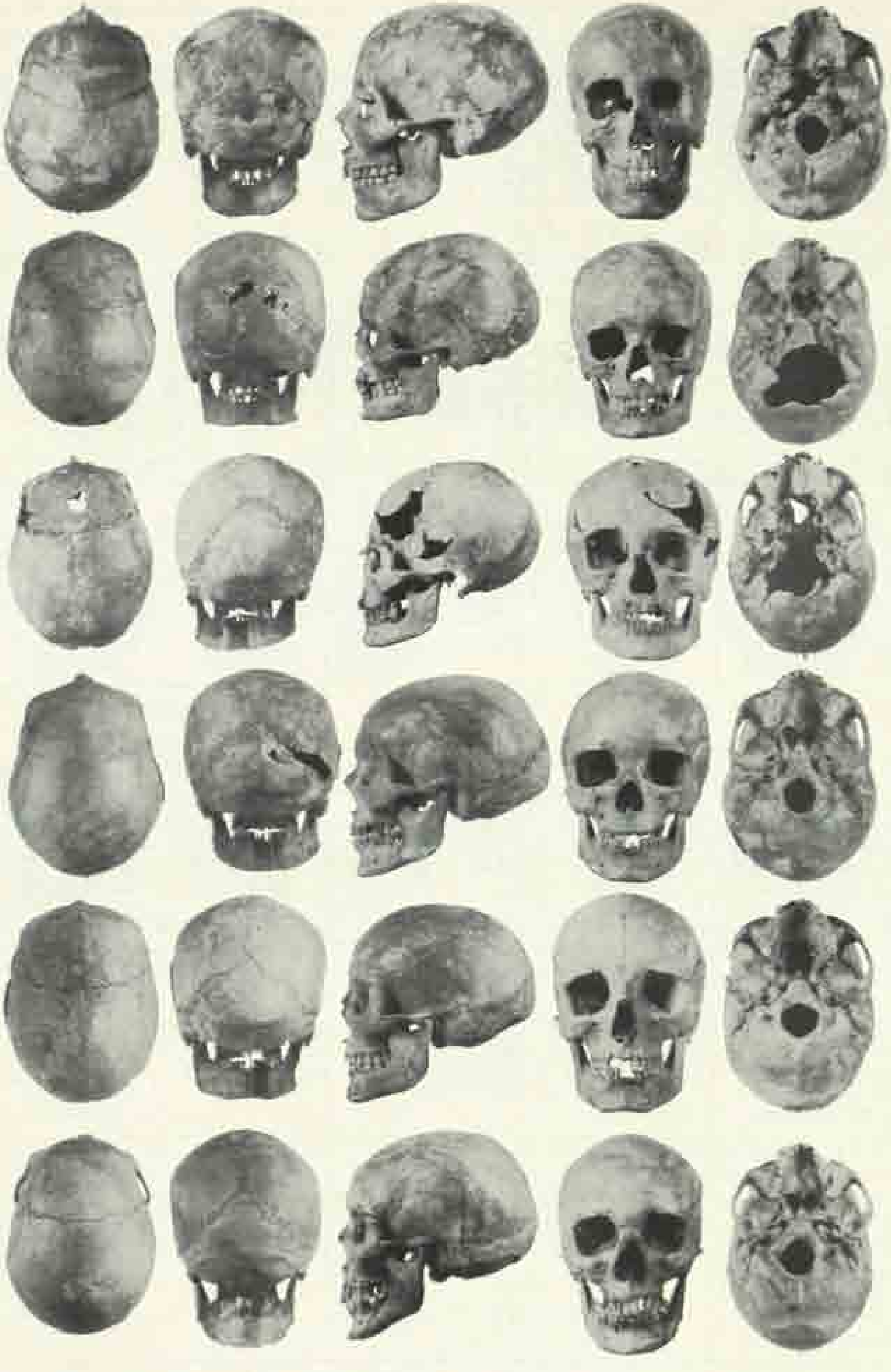
VÄSTERHUS: ANTHROPOLOGICAL CODE

Cut here

III:4

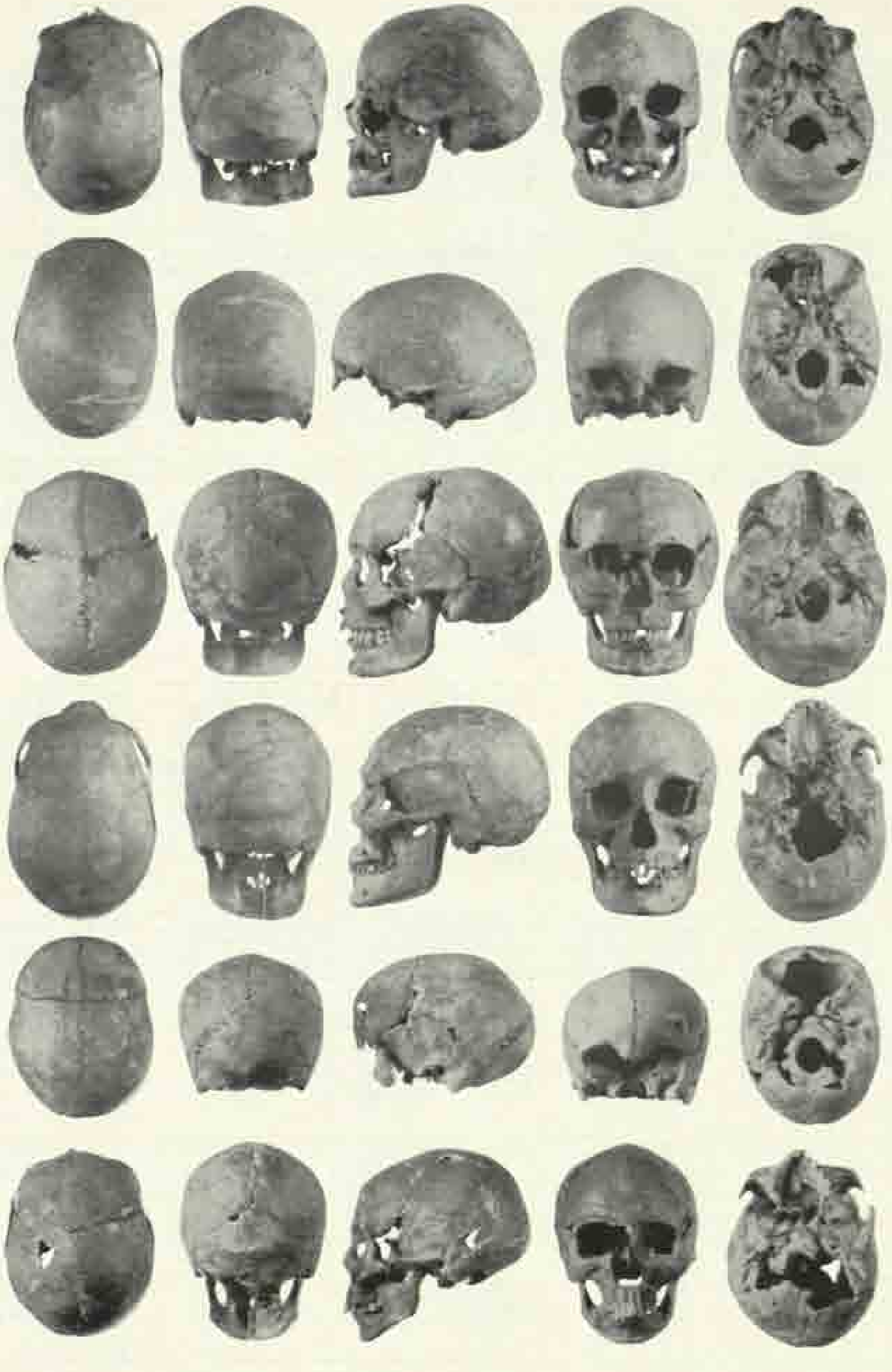
Table 22

A: a:125 b:4Et5Pa c:3 d:3 e: 0000TX0+0X00000C / 0000000-0000000 f:0-1 g:0-1 h:1 ka:123- kb:1234+ kc:123- kd:0 ke:0 l:2 m:1-2	B: a: b:4 c:- d:3 e:1-2 f:3 C: a:- b:23 c:42 d:234 e:1 f:0-1 g:14c h:2 j:1 H: a:25 b:2346Ge c:3 d:1 e:3 f:- g:♀24	D: a:24La5 b:0-1 c:0-1 d:35 e:1 f:1-2 g:2 h:2 j:1 k:12 l:3 m:1 Sex: ♀ No. 1 Age (20-25) yrs Ad.	E: a:- b:45 c:256 d:1 e:2 f:0-1 g:23 h:3b j:56 k:2 l:2 m:3 n:3 o:2358bdf p:2ed q:2 r:1hr s:2-3 t:3 u:15ub v:125	F: a:- b:14li c:256 d:1 e:2 f:2 g:1 G: a:1-2 b:1-2 c:2 d:1-2b e:1 f:2 J: (1)2 K: a1
A: a:1245 b:4EtBa c:1 d:2 e: D0000000+0X0XX00D / D0000R00-X00X000D f:1 g:1 h:1 ka:123- kb:1234- kc:123- kd:0 ke:M l:1 m:0-1	B: a:- b:4 c:- d:3 e:2-3 f:2 C: a:+ b:146 c:12 d:23(7) e:1 f:0-1 g:3bc h:1 j:1 H: a:1245 b:24Fi a c:0-1 d:1 e:1 f:♀ g:♀24	D: a:23747 b:1 c:1 d:25 e:1 f:0 g:3 h:3 j:2 k:13 l:1 m:1 Sex: ♀ No. 8 Age (18-20) yrs Juv.	E: a:- b:24 c:2526 d:1 e:3 f:0-1 g:2 h:3a j:34 k:0-1 l:1 m:1 n:1 o:12368bde p:1ed q:3 r:3hvpr 2-3 s:0-1 t:1 u:15uv v:264	F: a:- b:- c:2357 d:2 e:3 f:0 g:2 G: a:0-1 b:1 c:2-3 d:2a e:2 f:1 J: 3 K: a0
A: a:145 b:4Fra Et Ba c:0-1 d:2 e: 00X00A0+XX00000 / 0000000-0000000 f:2-3 g:2-3 h:2 ka:123- kb:1234- kc:123- kd:0 ke:0 l:1 m:0-1	B: a:- b:4 c:- d:0-1 e:0-1 f:2(-3) C: a:- b:146 c:12 d:245 e:1 f:0-1 g:3bc h:1 j:1 H: a:145 b:2 c:1 d:1-2 e:2 f:♀ g:♀24	D: a:14Br b:1 c:1 d:14 e:1 f:2 g:2 h:3 j:- k:3 l:1 m:1 Sex: ♀ No. 11 Age (35-40) yrs Ad.	E: a:(0) b:45 c:56 d:1 e:1 f:1 g:0 h:2-3a j:56 k:0-1 l:1 m:1 n:3 o:(0)58bde p:2ed q:3 r:1ha s:1 t:3 u:14v v:274	F: a:- b:- c:1567 d:1 e:3 f:- g:1-2 G: a:0-1 b:0-1 c:3 d:1-2 e:3 f:3-4 J: 1 K: a0
A: a:15 b:24dOcc c:2 d:1 e: 00000000+000K2A00 / 0000000X-0000000 f:3 g:2 h:2 ka:123+ kb:123+4- kc:123- kd:0 ke:0 l:2 m:2	B: a:- b:4 c:- d:0-1 e:2 f:2 C: a:- b:46 c:12 d:245 e:1 f:0-1 g:2bd h:1 j:1 H: a:15 b:4Pea c:1 d:1 e:2-3 f:♀ g:♀24	D: a:236La7 b:2 c:1-2 d:125 e:1 f:2 g:2 h:2 j:1-2 k:13 l:1 m:1 Sex: ♀ No. 15 Age (40-50) yrs Mat.	E: a:- b:132 c:256 d:2 e:3 f:0-1 g:0-1 h:3c-a j:243 k:0-1 l:2 m:2 n:2 o:1368bde p:1ed q:3 r:31a s:1 t:1 u:25uv v:247	F: a:- b:14li c:5267 d:2 e:3 f:0 g:1 G: a:2 b:2 c:3 d:2b e:1 f:3-4 J: 3 K: a1, ca, eb
A: a:1245 b:24Zyg c:2 d:1 e: 000000XX+00000000 / 00000R0X-X0R00000 f:1-2 g:0-1 h:0-1 ka:123- kb:1234- kc:123- kd:Sa La ke:M l:2 m:2	B: a:- b:4 c:- d:1-2 e:1-2 f:1 C: a:- b:2326 c:1256 d:245 e:1 f:1 g:3bc h:2 j:2 H: a:145 b:4Pe6Fe c:0-1 d:1-2 e:3 f:♀ g:♀24	D: a:14La57 b:0-1 c:0-1 d:25 e:1 f:0-1 g:3 h:0-1 j:1 k:2(4) l:1-2 m:1 Sex: ♀ No. 17 Age (30-35) yrs Ad.	E: a: b:23 c:165 d:1 e:3 f:0-1 g:0-1 h:3a j:34 k:2-3 l:(3) m:3 n:1 o:13578bde p:2ed q:3 r:1ha s:3 t:3 u:25uv v:125	F: a:- b:14li c:234(8) d:2 e:1 f:- g:1 G: a:1 b:2 c:2 d:2a e:2 f:3 J: - K: a0
A: a:15 b:1 c:1 d:3 e: 00100000+0X0000X0 / 00000000-00000100 f:0-3 g:3 h:1-3 ka:123- kb:1234- kc:123- kd:18a La ke:0 l:1 m:1	B: a:- b:4 c:- d:1 e:2 f:1 C: a:- b:135 c:1256 d:245 e:1 f:0-1 g:3bc h:3 j:2 H: a:15 b:2 c:0-3 d:1 e:2-3 f:♀ g:♀24	D: a:237 b:2-3 c:2 d:125 e:1 f:2 g:2 h:1 j:1 k:1 l:2 m:1 Sex: ♀ No. 21 Age (35-40) yrs Ad.	E: a:- b:156 c:36 d:1 e:2 f:1-2 g:1 h:2a j:134 k:2-3 l:1 m:3 n:1 o:12578bde p:2ed q:1 r:31apr1 s:2-3 t:1 u:15ub v:125	F: a:- b:42a c:7156 d:1 e:3 f:0 g:1-e G: a:0-1 b:1 c:3 d:2b e:1 f:5 J: 1 K: a1-2, eb



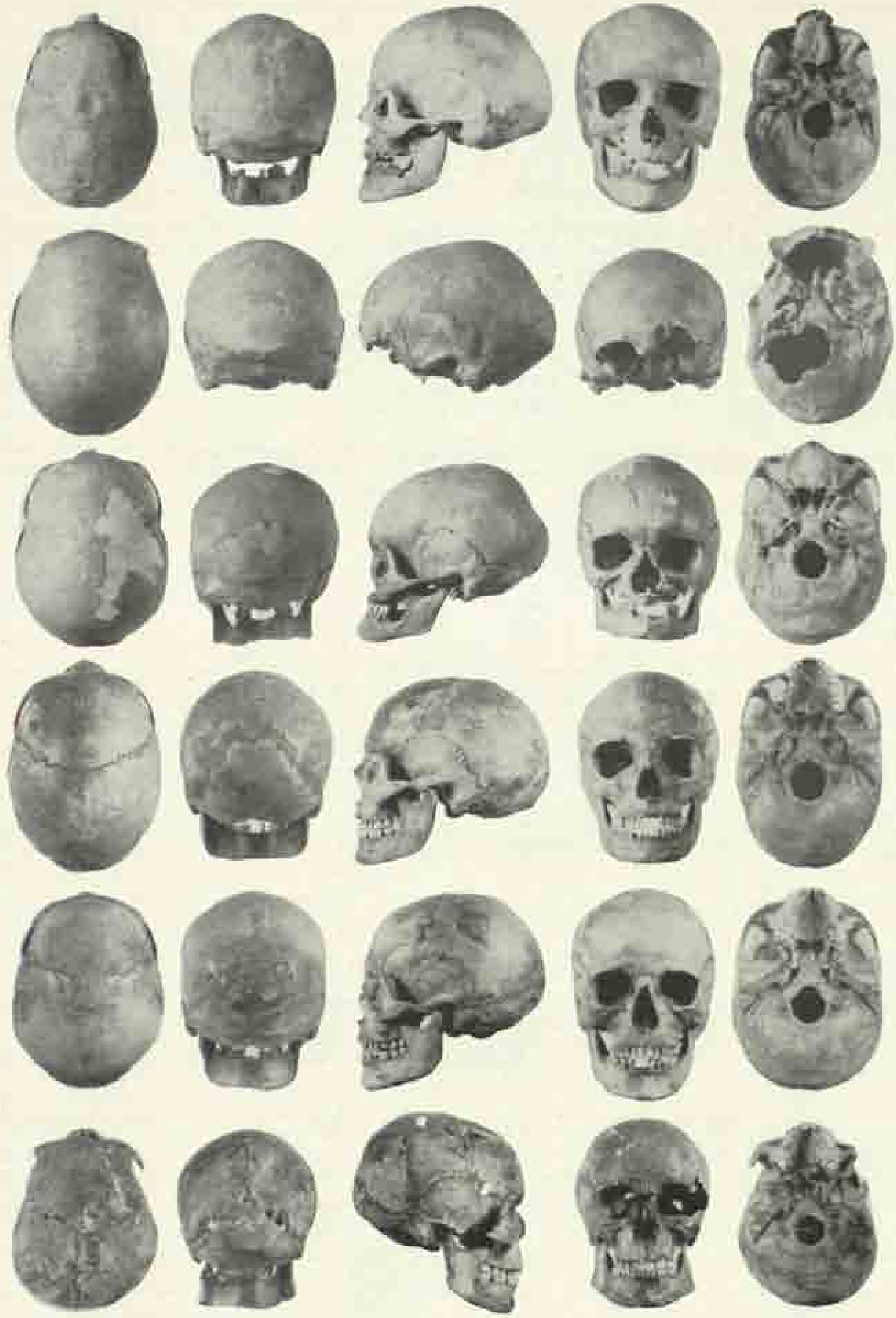
C 7

A: a:1275 b:4 Zya c:1 d:1 e: 1111X11X+11X1X00X 0X00000X-X0000111 f:1-3 g:2-1 h:3+ ka:1+2-3+ kb:1, 2, 3, 4+ kc:123- kd:0 ke:0 l:2 m:1	B: a:- b:4 c:- d:1 e:2 f:1 C: a:- b:235 c:1246 d:13 e:1 f:0-1 g:24ac h:2 j:2 H: a:1275 b:4 Zp Fe c:2 d:1-2 e:1 f:♀ g:♀24	D: a:1-234La58 b:0-1 c:0-1 d:125 e:1 f:0 g:1 h:0 j:2 k:12 l:1 m:1 Sex: ♀ No. 22 Age (50-60) yrs Mat.	E: a:- b:1315 c:56 d:1 e:3 f:0-1 g:0-1 h:23c j:24 k:0-1 l:- m:2 n:- o:1358 bde p:2d q:3 r:2ha s:3 t:(2) u:3v v:134	F: a:- b:14li c:(2328)d:- e:- f:1 g:(3) G: a:2 b:1-2 c:2 d:2b e:1 f:1 J:1
A: a:6 b:4Fc7 c:2 d:3 e: I------ + I------- I------ - I------- f:- g:- h:- ka:123+ kb:1234+ kc:123+ kd:0 ke:0 l:1-2 m:1-2	B: a:- b:4 c:- d:0-1 e:1 f:1 C: a:- b:1623 c:1246 d:11 e:1 f:0-1 g:24d h:2 j:2 H: a:5 b:2 c:0-1 d:1-2 e:1 f:♀ g:♀24	D: a:2, 4BrLa8 b:0-1 c:0-1 d:125 e:1 f:- g:- h:- j:- k:13 l:1 m:1 Sex: ♀ No. 23 Age (50-60) yrs Mat	E: a:- b:- c:156 d:2 e:3 f:0-1 g:0-1 h:3a j:- k:- l:- m:- n:- o: -e- p:- q:2 r:- s:- t:- u:2 v:134	F: a:- b:14a c:- d:- e:- f:- g:- G: a:1 b:1-2 c:3 d:3a e:- f:- J:1 K: a0
A: a:147 b:64Fad+++Et Ora+d c:1-2 d:(3) e: 00000000+X0000000 00000000-00000000 f:1-2 g:0-1 h:0-1 ka:123- kb:1234- kc:123- kd:0 ke:M l:0-1 m:1-2	B: a:- b:4 c:- d:3 e:2 f:3 C: a:- b:146 c:1246 d:2458 e:1 f:0-1 g:3bc h:1 j:1 H: a:147 b:2 c:0-1 d:1 e:2 f:♀ g:♀24	D: a:24Lab b:0-1 c:1 d:125 e:1 f:0-1 g:3 h:0-1 j:1 k:13 l:1 m:1 Sex: ♀ No. 24 Age (30-35) yrs Ad.	E: a:- b:(45) c:56 d:- e:2 f:1 g:2 h:2-3a j:(56) k:0-1 l:- m:3 n:- o:124e p:3ad q:(3) r:2 s:3 t:2 u:2-3b v:135	F: a:- b:142a c:2357 d:(2) e:3 f:1 g:1 G: a:2 b:2 c:3 d:2a e:2 f:2 J:4 K: a0
A: a:125 b:4BaEt5 c:2-3 d:(2) e: 00(00000+0000X000 0000000X-X0000000 f:2-3+ g:0-1 h:1-3 ka:1+23- kb:123+4- kc:12-3+ kd:0 ke:0 l:2-3 m:2-3	B: a:o b:4 c:169d d:0-1 e:1-2 f:1 C: a:o b:2623 c:12 d:245(8) e:1 f:1-2 g:14ac h:- j:1 H: a:125 b:46EpSa c:2-3 d:2-3 e:3 f:- g:♀24	D: a:256 b:0-1 c:1 d:12 e:1 f:3 g:1 h:3 j:(2) k:134da l:- m:1 Sex: ♀ No. 25a Age (40-50) yrs Mat.	E: a:o b:54 c:2526 d:2 e:3 f:2 g:0-1 h:3a j:56 k:1 l:(3) m:- n:- o:124e p:3ad q:1 r:1b, a s:- t:3 u:15ab v:125	F: a:o b:- c:5617 d:1 e:3 f:2-3 g:1-3 G: a:2-3 b:2-3 c:3 d:3a e:1 f:3 J:- K: aO,
A: a:12458 b:Fc4BaEt6 c:2-3 d:3 e: 00000000+0000R000 0000000-X000000 f:0-1 g:0 h:0-2 ka:123- kb:1234- kc:123- kd:0 ke:M l:0-1 m:0-1	B: a:- b:4 c:- d:2 e:2 f:2(3) C: a:- b:46 c:1246 d:245 e:1 f:1 g:3bd h:1 j:1 H: a:12458 b:2 c:1 d:1 e:3 f:♀ g:♀24	D: a:157 b:0-1 c:0-1 d:25 e:1 f:- g:- h:(1) j:- k:134 l:1 m:1 Sex: ♀ No. 30 Age (25-30) yrs Ad.	E: a:- b:- c:56 d:2(-1) e:3 f:0 g:2-3 h:3a j:- k:- l:- m:- n:- o:1, 2-3, 4e p:(3d) q:(3) r:(1b)a, pr1 s:(1-2) t:- u:- v:-	F: a:- b:1a c:(348) d:- e:- f:- g:1 G: a:1-2 b:1-2 c:3 d:1-2b e:2 f:3 J:- K: a0,
A: a:256 b:64Et, Ba, Pa c:0-1 d:2 e: 00000000+00X0X000 0A00010-00000XI f:1-3 g:1-2 h:0 ka:123- kb:234- kc:123- kd:0 ke:0 l:1-2 m:1	B: a:- b:4 c:- d:3 e:2-3 f:2 C: a:- b:2336 c:346 d:237 e:1 f:1-2 g:3bc h:2 j:2 H: a:256 b:24 PeSa c:0-1 d:1 e:3 f:♀ g:♀24	D: a:237 b:0-1 c:0-1 d:36 e:- f:2 g:- h:3 j:2 k:124ad l:2 m:2 Sex: ♀ No. 31 Age (30-35) yrs Ad.	E: a:- b:23 c:2526 d:1 e:2 f:0-1 g:1-2 h:3b j:134 k:2 l:(3) m:(1) n:(1) o:125e p:2a q:1 r:-apr2-3 s:(1) t:- u:15ab v:24	F: a:- b:- c:234 d:2 e:- f:? g:1-2 G: a:1 b:2-3 c:1 d:1-2b e:2 f:5 J:1 K: a2-3, d1-2, ab

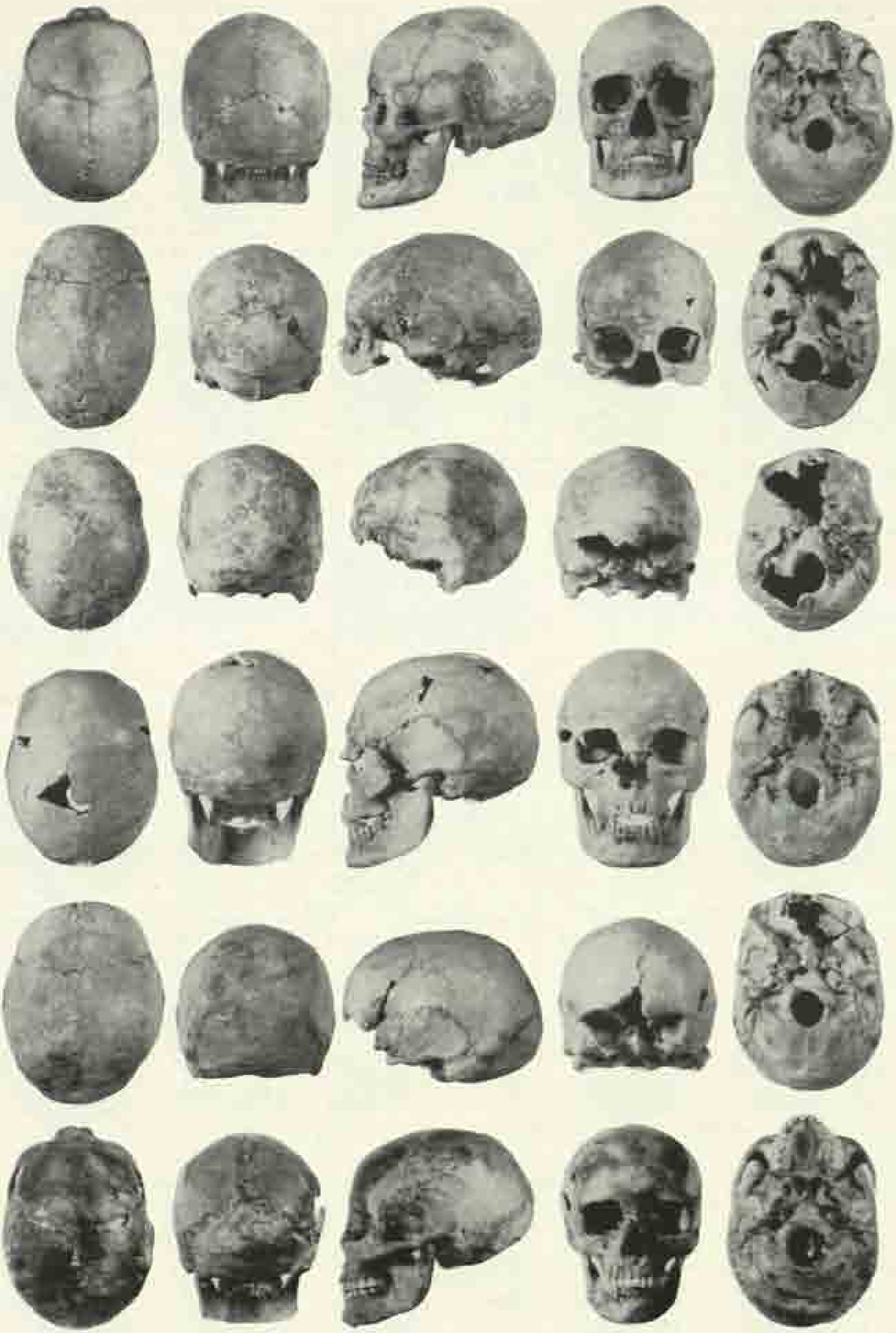


C 9

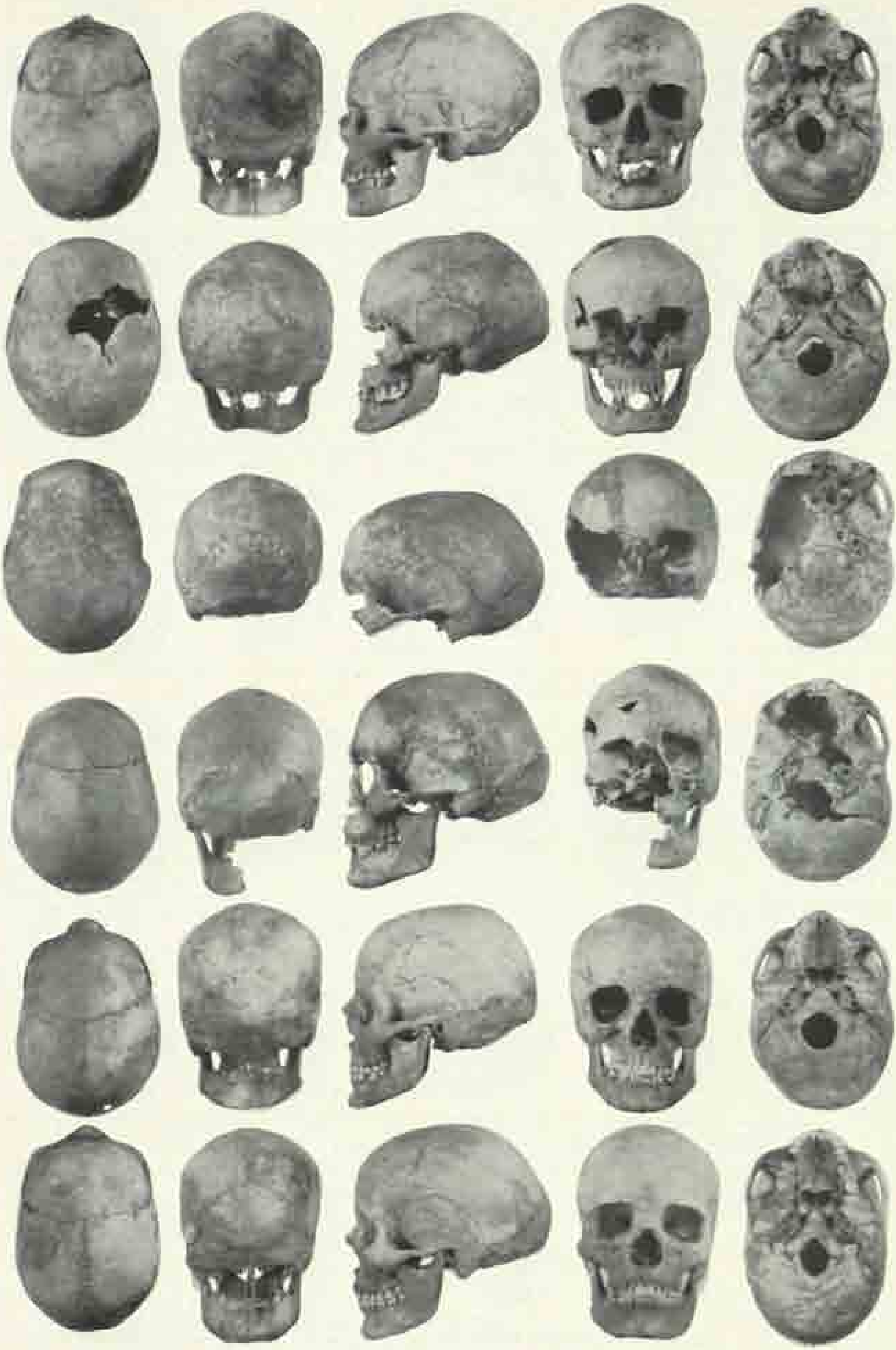
A: a: 145 b: 2 c: 2-3 d: 3 e: XIXXXXX+XXXXIIX / X000000X-XXX0000 f: 2-3 g: 3 h: 1-2 ka: 1+2-3+ kb: 1, 2, 3, 4+ kc: 1, 2+3- kd: La3 ke: 0 l: 2 m: 2	B: a: – b: 4 c: – d: 1 e: 1 f: 1 C: a: – b: 2623 c: 12 d: 246 e: 1 f: 1-2 g: 3b, d h: 2 j: 2 H: a: 145 b: 2 c: 1 d: 2-3 e: 2 f: ♀ g: ♀24	D: a: 2 b: 1 c: 1 d: 25 e: 1 f: 0-1 g: 3 h: 3 j: 1 k: 13 l: 1 m: 1 Sex: ♀ No. **32** Age (50-60) yrs Mat.	E: a: 0 b: 154 c: 36 d: 1 e: 1 f: 1 g: 0-1 h: 3a j: 2425 k: 1-2 l: 2 m: 3 n: 2 o: o24-58bde p: 2ad q: 1 r: 1ha s: 3 t: 3 u: ?5ub v: 135	F: a: – b: 1a3 c: 567 d: – e: 3 f: 3 g: 4 G: a: 2 b: 1-2 c: 3 d: 3a e: 1 f: 4 J: 14 K: a0d?
A: a: 25 b: 84FraFc c: 2 d: 3 e: XX000XX+000000 (A) / 0010X000-00000X0 (A) f: 2-3+ g: 1-3 h: 1-2 ka: 123+ kb: 1234+ kc: 123- kd: La1 ke: 0 l: 2 m: 2	B: a: – b: 4 c: – d: 0-1 e: 1 f: 2 C: a: – b: 46 c: 12 d: 13 e: 1 f: 2 g: 3bd h: 1 j: 1 H: a: 25 b: 2 c: 1 d: 1-2 e: 2-3 f: ♀ g: ♀24	D: a: 24La8 b: – c: 1 d: 25 e: – f: – g: – h: – j: – k: 3 l: 1 m: 1 Sex: ♀ No. **34** Age (40-50) yrs Mat.	E: a: – b: – c: 2526 d: 2(-1) e: 2 f: 1 g: 0-1 h: 2-3 j: – k: – l: – m: – n: – o: – p: – q: – r: – s: – t: – u: – v: –	F: a: – b: 3a c: – d: – e: – f: – g: – G: a: 2-3 b: 2-3 c: 2-3 d: 3a e: – f: (5) J: 1 K: a0, d?e6
A: a: 145 b: 25FrPad c: 2 d: 2 e: ----- I+I ---X (?) / X0000XII-II0000II (K K) f: 2 g: 3 h: 0-1 ka: 123+ kb: 1234+ kc: 123+ kd: La1 ke: 0 l: 1-2 m: 1-2	B: a: – b: 4 c: – d: 2 e: 2 f: 2 C: a: 0 b: 46 c: 2 d: 2468 e: 1 f: 2-3 g: 3bd h: 1 j: 1 H: a: 145 b: 46Ep, 48a c: 1-2 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: 14La9 b: 0-1 c: 0-1 d: 125 e: 1 f: 2 g: (2) h: – j: 1 k: 13 l: 1 m: 1 Sex: ♀ No. **37** Age (50-60) yrs Mat.	E: a: – b: 23 c: 1516 d: 2-1 e: 2 f: 1-2 g: 1 h: 2b j: 14 k: 2-3 l: 3 m: 1 n: 1 o: 1258ae p: 2ad q: 2-3 r: 3la s: – t: (3) u: – v: –	F: a: – b: 2a4 c: – d: – e: – f: 1 g: – G: a: 1-2 b: 1-2 c: 13 d: 2a e: – f: 4-5 J: – K: a1+2, cd
A: a: 1245 b: 1 c: 2 d: 2 e: X00X000X+X0000000 / 00000X0X-X0000000 f: 1-2 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La ke: 0 l: 1-2 m: 1-2	B: a: – b: 4 c: – d: 1-2 e: 1-2 f: 1 C: a: – b: 2326 c: 1246 d: 2(8) e: 1 f: 1-2 g: 3bd h: 2 j: 1 H: a: 1245 b: 1 c: 1 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: 24La57 b: 1 c: 1 d: 125 e: 1 f: 2 g: 2 h: 2 j: 2 k: 3 l: 1 m: 1 Sex: ♀ No. **38** Age (25-30) yrs Ad.	E: a: – b: 23 c: 1516 d: 1 e: 2 f: 1 g: 1-2 h: 2a j: 14 k: 2 l: 3 m: 1 n: 1 o: 1248bce p: 2a3d q: 2 r: 2s s: 2-3 t: 2 u: 15ub v: 25	F: a: – b: 4a c: 567 d: 1 e: 3 f: 0-1 g: 1 G: a: 1-2 b: 2 c: 3 d: 1a e: 2 f: 3 J: – K: a0,
A: a: 147 b: 24Na c: 2 d: 3 e: 00000000+00000000 (KAA) / 0000$\emptyset$0XX-X00$\emptyset$0000 (Y Y) f: 0-1 g: 0-1 h: 0-3 ka: 1+23- kb: 1234- kc: 123- kd: Cor, La ke: 0 l: 2 m: 2	B: a: – b: 3-4 c: – d: 2-3 e: 3 f: 2 C: a: – b: 136 c: 1246 d: 145 e: 1 f: 1 g: 3bd h: 2 j: 1 H: a: 147 b: 2 c: 2 d: 1 e: 3 f: ♀ g: ♀24	D: a: 15 b: 2 c: 1-2 d: 125 e: 1 f: 1-2 g: 2 h: 1-2 j: 1 k: 14 l: 2 m: 1 Sex: ♀ No. **40** Age (30-35) yrs Ad.	E: a: – b: 1315 c: 36 d: 1 e: 1 f: 1-2 g: 2 h: 2b j: 245 k: 1-2 l: 3 m: 3 n: 2 o: 1258bde p: 2ad q: 1-2 r: 3(-2)i s: 3 t: 1 u: 1b v: 12(5)	F: a: – b: 141a c: 2357 d: 2 e: 3 f: 2 g: 1 G: a: 2 b: 1-2 c: 2-3 d: 2a e: 2 f: 3 J: 1 K: a0, d1-2
A: a: 2457 b: 864Fc Et c: 1 d: (2) e: 0000000+0000000 / 00000000-00000000 f: 0-2 g: 0-1 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: – b: 2-4 c: – d: 1 e: 3 f: 3 C: a: – b: 236 c: 12 d: 245 e: 1 f: 0-1 g: 3bc h: 2 j: 2 H: a: 2457 b: 45 c: 0-1 d: 1 e: 3 f: ♀ g: ♀24	D: a: 254La7 b: 1 c: 1 d: 214 e: 1 f: 0-1 g: 3 h: 1 j: 1 k: 12 l: 3 m: 2 Sex: ♀ No. **41** Age (25-30) yrs Ad.	E: a: – b: 1315 c: 2526 d: 2(-1) e: 2 f: 1 g: 1 h: 2a-b j: 245 k: 2 l: – m: 3 n: – o: 1248bce p: 3d q: 2 r: 2 s: – t: 2 u: – v: –	F: a: – b: 411 c: 2323b d: 2 e: 2 f: 8 g: 1-2 G: a: 2 b: 2-3 c: 23 d: 2a e: – f: 4 J: 3 K: a2, d1-2



A: a:12456 b:24Sq c:2 d:3 e: 0000X00X+XX000000 / 00000000-00000000 f:1-3+ g:0-1 h:3 ka:123- kb:1234- kc:123- kd:0 ke:0 l:1-2 m:1-2	B: a:- b:4 c:- d:2 e:1 f:1 C: a:0 b:235 c:2 d:23 e:1 f:1 g:24c h:2 j:3 H: a:12456 b:2 c:2 d:2-3 e:2 f:♀ g:♀24	D: a:24La57 b:0-1 c:1 d:25 e:1 f:0-1 g:3 h:2 j:2 k:13 l:1 m:1 Sex: ♀ No. 42 Age (35 - 40) yrs Ad.	E: a:- b:135 c:256 d:2(-1) e:3 f:1 g:1-2 h:2-3b j:245 k:1 l:2 m:2 n:2 o:12348bde p:3ad q:1-2 r:1ba s:? t:3 u:1v v:24	F: a:- b:31i c:567 d:1 e:3 f:2 g:1 G: a:2 b:1-2 c:2-3 d:2-3a e:1 f:3 J: 13 K: a3+3
A: a:12347 b:Fc64Ba Et c:1 d:2 e: 000-------+---AX100 / 00X00XXX-X0R00000 f:2-3 g:1-2 h:1-2 ka:1+23- kb:1234- kc:123- kd:La4 ke:0 l:1-2 m:1	B: a:- b:4 c:- d:3 e:2 f:1 C: a:- b:35 c:2 d:145 e:1 f:2 g:3bc h:3 j:3 H: a:147 b:4PeRaTi c:1 d:3 e:2-3 f:♀ g:♀24	D: a:34La59 b:2 c:1-2 d:25 e:1 f:- g:- h:- j:- k:134 l:2 m:2 Sex: ♀ No. 43 Age (40 - 50) yrs Mat.	E: a:- b:- c:56 d:2 e:3 f:1 g:2 h:2b j:- k:- l:- m:- n:- o:2,4-5,7 p:2a3d q:2 r:1-a s:- t:- u:1-2b v:134	F: a:- b:31i c:- d:- e:- f:- g:- G: a:1 b:3 c:2 d:1a e:- f:3 J: 1 K: a0
A: a:1245 b:4MxdZyadBa c:2 d:2 e: XIIIIIIX+XXXIXXX0 / X0IXXIII-IIIXXIX f:3 g:3+ h:1 ka:1+23- kb:1234- kc:123- kd:0 ke:0 l:1 m:1-2	B: a:0 b:4 c:1596 d:2 e:2 f:3 C: a:0 b:236 c:246 d:23-46 e:1 f:0-1 g:14ad h:2 j:2 H: a:134 b:45EpPeSa c:2-3 d:2-3 e:3 f:? g:♀24	D: a:25 b:1 c:1 d:25 e:1 f:- g:- h:2 j:- k:2 l:2 m:2 Sex: ♀ No. 44 Age (50 - 60) yrs Mat.	E: a:- b:- c:56 d:2 e:3 f:1-2 g:2 h:3b j:- k:1 l:- m:- n:- o:347c p:3a q:(3) r:-a s:(2) t:- u:- v:-	F: a:- b:31a c:- d:- e:- f:- g:- G: a:2-3 b:2-3 c:2-3 d:3a e:? f:2 J: 5 K: a0
A: a:15 b:4NaZydPa c:3 d:1 e: X00000X0+XX00XX00 / 00100000-00000000 f:3+ g:1-2 h:3+ ka:1+2-3+ kb:1234+ kc:123+ kd:0 ke:0 l:2 m:2-3	B: a:- b:4 c:- d:1 e:1 f:2 C: a:- b:236 c:1246 d:246 e:1 f:2 g:3bd h:3 j:3 H: a:145 b:2 c:3 d:2-3 e:2 f:♀(♂) g:♀24	D: a:25 b:1-2 c:1-2 d:125 e:2 f:2 g:2 h:2 j:1-2 k:13 l:1 m:1 Sex: ♀ No. 45 Age (50 - 60) yrs Mat.	E: a:- b:1315 c:56 d:2 e:3 f:2 g:1 h:3a j:245 k:(2) l:3 m:2 n:2 o:2-3678bde p:1ad q:3 r:2hv prl s:(1) t:2 u:35ab v:35	F: a:0 b:42a c:234 d:2 e:(1) f:- g:1a G: a:3 b:3 c:2-3 d:2a-b e:1 f:3 J: 13 K: a0,cd
A: a:147 b:Fc4Er c:3 d:3 e: IIIIIXXX+XIIIIII / IIIIIIII-IIIIIII f:- g:- h:- ka:1+23- kb:1234- kc:123- kd:0 ke:0 l:1 m:2	B: a:0 b:4 c:1689 d:1-2 e:1 f:2 C: a:- b:236 c:246 d:23 e:1 f:1-2 g:3b, dh:1 j:2 H: a:1247 b:4PeEp c:1 d:2 e:1 f:♀ g:♀24	D: a:234La79 b:- c:0-2 d:25 e:1 f:- g:- h:- j:- k:13 l:1 m:2 Sex: ♀ No. 46 Age (50 - 60) yrs Mat.	E: a:- b:- c:56 d:2(-1) e:3 f:1 g:1 h:2-3a j:- k:(1) l:- m:- n:- o:234a p:3ad q:- r:- s:- t:- u:- v:-	F: a:- b:41i c:- d:- e:- f:- g:- G: a:2 b:2 c:2-3 d:3a e:2 f:3 J: 13 K: a0
A: a:1248 b:24FrPad c:1-2 d:2 e: 00000000+00000000 / 00000000-00000000 f:1-2 g:1-2 h:0-1 ka:123- kb:1234- kc:123- kd:0 ke:0 l:1-2 m:1-2	B: a:- b:4 c:- d:3 e:1-2 f:2 C: a:- b:236 c:12 d:23 e:1 f:1 g:3bd h:1 j:1 H: a:1248 b:24HndSa c:1 d:1 e:1-2 f:♀ g:♀24	D: a:234La7 b:0-1 c:0-1 d:125 e:1 f:2 g:2 h:3 j:2 k:124 l:1 m:1 Sex: ♀ No. 48 Age (20 - 25) yrs Ad.	E: a:- b:23 c:56 d:(2) e:(3) f:1 g:1 h:2-3a j:34 k:1 l:1 m:1 n:1 o:12368bda p:1ad q:2 r:2apr2 s:) t:2 u:1b v:24-6	F: a:- b:14a c:568 d:1 e:2 f:1 g:1 G: a:1-2 b:1-2 c:1-3 d:2a e:1 f:3 J: - K: a2-3, d2,

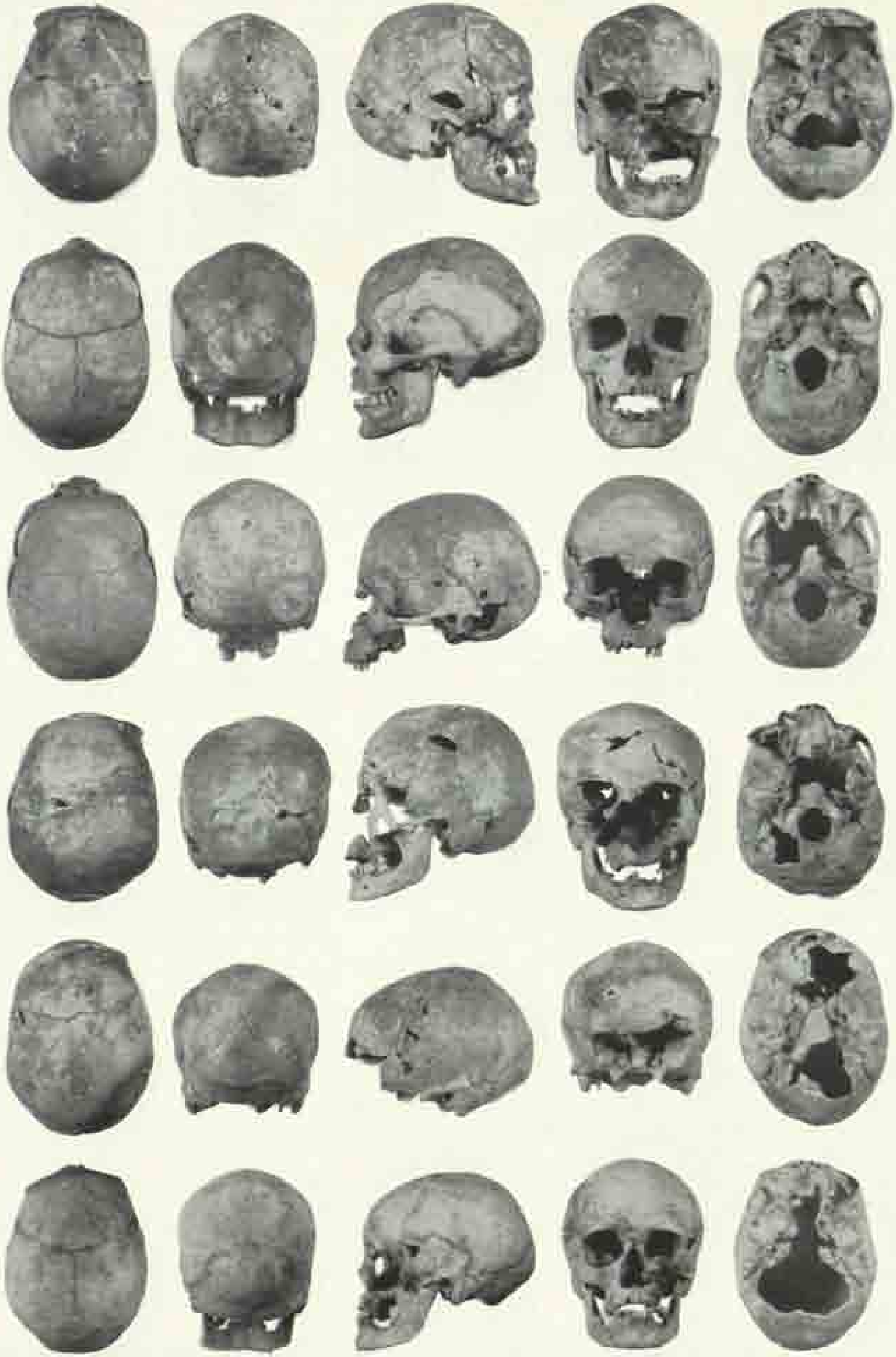


A: a: 147 b: 2 c: 1 d: 2 e: XX000XX0+01000000 / 000000X00-0000000I f: 2 g: 2-3 h: 1-2 ka: 123- kb: 12-34+ kc: 123 kd: 0 ke: 0 l: 1 m: 1	B: a: – b: 4 c: – d: 0-1 e: 2 f: 1 C: a: – b: 326 c: 1246 d: 245 e: 1 f: 0-1 g: 13adh: 2 j: 3 H: a: 147 b: 2 c: 1 d: 1-2 e: 2 f: ♀ g: ♀24	D: a: 14La68 b: 1-2 c: 1-2 d: 125e: 1-2 f: 2 g: 2 h: 1 j: 2 k: 13 l: 1 m: 1 Sex: ♀ No. **50a** Age (35 - 40) yrs Ad.	E: a: – b: 23 c: 36 d: 2 e: 1 f: 1-2 g: 0-1 h: 3b j: 34 k: 1-2 l: 1 m: 1 n: 1 o: 12358bde p: 2ad q: 1 r: 1ha s: (1) t: 3 u: 24b v: 135	F: a: o b: 3ea c: 567 d: 1 e: 3 f: 0 g: 1a G: a: 1 b: 1 c: 3 d: 1a e: 2 f: 5 J: 1 K: a1, e6
A: a: 145 b: 64PaSqEtn c: 1-2 d: 2 e: XXX00000+000X0000 / XXX00001-1X0X0XX (AKK, KK / KKK, K K, A) f: 2 g: 2-3 h: 0 ka: 123+ kb: 1234+ kc: 1-23+ kd: 0 ke: 0 l: 1 m: 1	B: a: – b: 4 c: – d: 2 e: 1-2 f: 1 C: a: – b: 46 c: 12 d: 246 e: 1 f: 1-2 g: 3bcd h: (1) j: (1) H: a: 145 b: 2 c: 0-2 d: 1-3 e: 1-2 f: ♀ g: ♀24	D: a: 27 b: 0-1 c: 1 d: 125e: – f: 2 g: 2 h: (3) j: (1) k: 3 l: 1 m: 1 Sex: ♀ No. **51** Age (50 - 60) yrs Mat.	E: a: – b: – c: 36 d: (1) e: 1 f: 1 g: 1 h: 2a j: 34 k: 2-3 l: 3 m: 2 n: (1) o: 24f p: – q: 1 r: – s: – t: – u: – v: –	F: a: – b: 3e c: 3e26 d: 1 e: 2 f: 0 g: 1a G: a: 1 b: 1 c: 3 d: 2-3b e: 2 f: 4 J: 134 K: a0, d1
A: a: 1245 b: 4FcTrPaa Mn c: 1-2 d: X-2) e: 000000XX+?-- / --?-XXXXXX0X0 (A) f: 1-3 g: 2 h: 0-1 ka: (12-3)+ kb: 1+234- kc: 123- kd: La, Tri ke: 0 l: 1-2 m: 1-2	B: a: – b: 4 c: – d: 1-2 e: 1-2 f: 1 C: a: – b: 46 c: 246 d: 2 e: 1 f: 1 g: 24d h: 1 j: 3 H: a: 1245 b: 4PeSa c: 1 d: 1-2 e: 1 f: ♀ g: ♀24	D: a: 236T b: 1 c: 1-2d: 125e: 1 f: – g: – h: – j: – k: 34 l: 1 m: 1 Sex: ♀ No **52** Age (40 - 50) yrs Mat.	E: a: – b: – c: (257) d: 2 e: 3 f: 1 g: 1 h: 2-3a j: – k: 1 l: – m: – n: – o: 347bde p: – q: 2-3 r: – s: – t: – u: 2 v: 3-	F: a: – b: 32e c: – d: – e: – f: 0 g: – G: a: 2 b: 2 c: 2 d: – e: – f: 4 J: 1 K: a0,
A: a: 1245 b: 4FcSq PaEt c: 1 d: 2 e: 000000XX+X0000000 / 0007????X0XII000 f: 2-3 g: 1-2 h: 1 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: – b: 4 c: – d: 1 e: 2 f: 1 C: a: – b: 236 c: 1246 d: 13 e: 1 f: 2-3 g: 3bd h: (2) j: (3) H: a: 1245 b: 2 c: 1 d: 2 e: 2 f: ♀ g: ♀24	D: a: 234La8 b: 0-1 c: 0-1 d: 125e: 1 f: 0-1 g: (2) h: – j: 1-2 k: 1313 l: (1) m: (2) Sex: ♀ No. **54** Age (35 - 40) yrs Ad.	E: a: – b: 45 c: 156 d: 2 e: (3) f: 1 g: 1-2 h: 2-3a j: 156 k: 0-1 l: (2) m: (2) n: (3) o: 235e p: 2e q: – r: – s: – t: – u: – v: –	F: a: – b: (141) c: – d: – e: – f: 0 g: 1 G: a: 2 b: 2 c: 2 d: 2a e: – f: (3-4) J: 3 K: a0
A: a: 145 b: 2 c: 1 d: 3 e: 00000000+00000000 / 000T0000-0000T000 (K 05, 05 K) f: 1-2 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: – b: 4 c: – d: 2-3 e: 2 f: 2 C: a: – b: 2623 c: 1246 d: 1-23 e: 1 f: 2 g: 3bc h: 2 j: 3 H: a: 145 b: 1 c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 14BrLa b: 0-1 c: 0-1 d: 135e: 2 f: 1-2 g: 2 h: 0-1 j: 1 k: 2 l: 2 m: 1 Sex: ♀ No **55a** Age (25 - 30) yrs Ad.	E: a: o b: 1315 c: 156 d: 2 e: 3 f: 0-1 g: 2 h: 2a-b j: 245 k: 1 l: 1 m: 1 n: 2 o: o258bde p: 2ad q: 1 r: 1ha s: (1) t: 3 u: 25ab v: 135	F: a: – b: 42a c: 2358 d: 2 e: 3 f: 0-1 g: 1o G: a: 1 b: 1 c: 3 d: 1-2a e: 1 f: 5 J: 3 K: a0, d2
A: a: 1345 b: 1 c: 1-2 d: 2 e: 000X0000+00000000 / 00000000-00000000 f: 0-3 g: 0-1 h: 0-2 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: – b: 4 c: – d: 2 e: 1-2 f: 1 C: a: – b: 235 c: 1246 d: 145 e: 1 f: 1-2 g: 3bc h: 2 j: 3 H: a: 1345 b: 1 c: 2 d: 1 e: 2 f: ♀ g: ♀24	D: a: 238 b: 0-1 c: 0-1 d: 25 e: 1 f: 0-1 g: 3 h: 3 j: 1 k: 13 l: 1 m: 1 Sex: ♀ No. **56** Age (25 - 30) yrs Ad.	E: a: – b: 1315 c: 56 d: 2 e: 3 f: 0-1 g: 2 h: 2a-b j: 245 k: 1 l: 1 m: 1 n: 2 o: 1368bde p: 1ad q: 2 r: 31apr1 s: 2 t: 1 u: 1-24b v: 135	F: a: – b: 31i c: 237 d: 2 e: 3 f: 0 g: 1o G: a: 1-2 b: 2 c: 3 d: 1-2a e: 1 f: 5 J: (3) K: a0, d1-2, e6



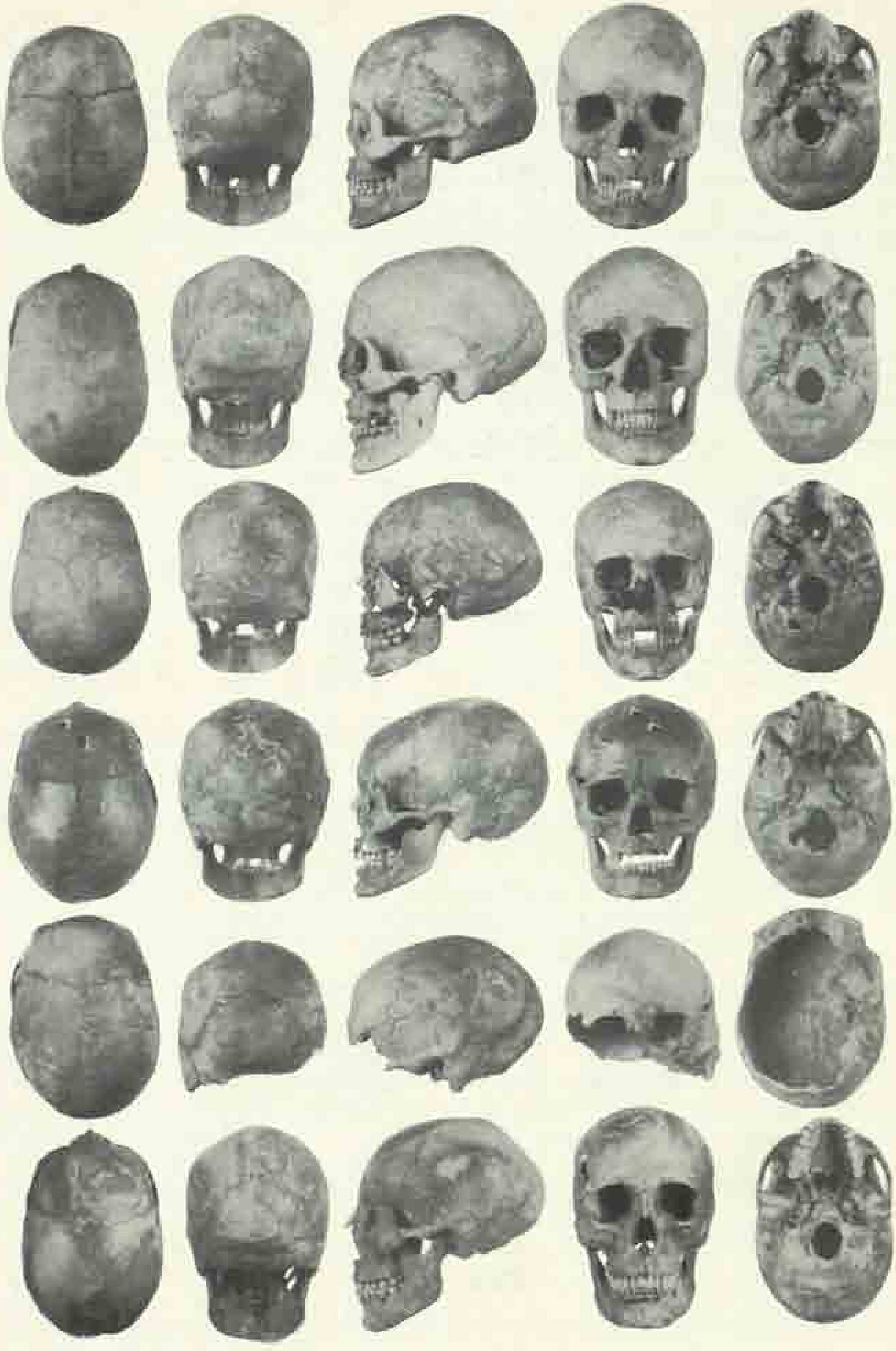
III:6

A: a: 125 b:64FcBa Et c: 1 d:2 e: 00X0X000+0XXIIX?? / XII0000X-X00001 0? f:2-3+ g:3 h: 1-2 ka:123- kb: 1234- kc:123- kd: La ke: M l: 1 m: 1	B: a: o b:4 c:189 d: 2 e: 1 f: 1 C: a: o b: 35 c: 4 d:1-23 e: 1 f: 1 g: 3bc h: 3 j: 3 H: a: 125 b: 24Pe c: 1 d: 1 e: 1 f: ♀ g: ♀24	D: a: 234La b: 1 c: 1 d: 125 e: 1 f: - g: - h: - j: k: 3 l: (3) m: 2 Sex: ♀ No. 57 Age (40 – 50) yrs Mat.	E: a: - b: - c: 56 d: 2 e: 3 f: 1 g: 2 h: 2a j: - k: - l: - m: - n: - o: - p: - q: 2 r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: 0 g: 1 o G: a: 1-2 b: 1 c: 2(-3) d: 3b e: (2) f: 3 J: - K: d(1-2)
A: a: 1245 b:25Sga c: 2 d:3 e: 000XXXXX+XXXXX000 / 000000X0X-X0000000 f: 2 g: 1 h: 2-3 ka:123- kb: 1234- kc:123- kd: 0 ke: 0 l: 2 m: 2	B: a: - b: 4 c: 69 d: 2 e: 2-3 f: 1 C: a: - b: 236 c: 2-3b d: 13 e: 1 f: 1-2 g: 24ac h: 1(-2) j: 3 H: a: 15 b: 24Ped c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 234La9 b: 0-1 c: 0-1 d: 25 e: 1 f: 0(-1) g: 3 h: 0 j: 2 k: 134 l: 3 m: 1 Sex: ♀ No. 63 Age (35 – 40) yrs Ad.	E: a: - b: 1313 c: 56 d: 2 e: 3 f: 0-1 g: 2 h: 2b j: 2425 k: 0-1 l: 2 m: 2 n: 2 o: 1368 bdf p: 1ad q: 2 r: 3l/e s: 1 t: 1 u: 35ub v: 25	F: a: - b: 3a c: 567 d: 1 e: 3 f: 1 g: 1 G: a: 2-3 b: 2-3 c: 2(-3) d: 2-3a e: 2 f: 4-5 J: - K: a0, ce
A: a: 147 b:4EtPa c: 1 d:2 e: XX0000XX+XI000XIX / missing f: 3 g: 2 h: 1 ka:123+ kb: 1234+ kc:123+ kd: 0 ke: 0 l: 1 m: 1	B: a: - b: 4 c: - d: 2 e: 2 f: 3 C: a: - b: 136 c: 2 d: 23 e: 1 f: 0-1 g: 3bd h: 2 j: 2 H: a: 147 b: 0 c: 2 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: 34La b: 0-1 c: 0-1 d: 125 e: 1 f: 3 g: 1 h: 2 j: 2 k: 34 l: 3 m: 2 Sex: ♀ No. 64 Age (40 – 50) yrs Mat.	E: a: - b: 45 c: 256 d: 2 e: 2 f: 1 g: 2 h: 2-3b j: 56 k: 1-2 l: 1 m: 2 n: 2 o: 348 bde p: - q: 1 r: 2 s: - t: 2 u: - v: -	F: a: - b: 4e c: 235 d: 2 e: - f: 3 g: 1 G: a: - b: - c: - d: - e: - f: - J: 3
A: a: 1256 b:6Fe c: 2 d:2 e: I0X0XIXX+XXTII000 / 0III00XX-XX0000I0X f: 3+ g: 3 h: 2 ka:123+ kb: 1234+ kc:123+ kd: 0 ke: 0 l: 1 m: 2	B: a: o b: 4-5 c: 179 d: 2 e: 3 f: 2 C: a: o b: 236 c: 12 d: 13 e: 1 f: 1 g: 14bd h: 2 j: 2 H: a: 1256 b: 346 c: 1 d: 1 e: 1 f: ♀ g: ♀24	D: a: La567 b: 0-1 c: 0-1 d: 125 e: 1 f: - g: - h: - j: - k: 3 l: 3 m: 2 Sex: ♀ No. 65 Age (50 – 60) yrs Mat.	E: a: o b: - c: 256 d: 2(-1) e: 2 f: 1 g: 2 h: 2b j: - k: - l: - m: - n: - o: - p: - q: 1 r: -e s: - t: - u: 1b v: 125	F: a: o b: 42a c: 567 d: 3 e: 3 f: - g: 0 G: a: 1-2 b: 2 c: 2-3 d: 2b e: 2 f: 4 J: 12
A: a: 1248 b:8Fc4Be Et c: 1-2 d:2 e: 00X000X0+000X0000 / 00000X00-00000000 f: 1-3 g: 0-1 h: 0-1 ka:1+23- kb: 12-3+4- kc:123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: o b: 4(-3) c: 69 d: 1-2 e: 2-3 f: 2 C: a: - b: 46 c: 346 d: 245 e: 1 f: 2-3 g: 3bd h: 2 j: - H: a: 1248 b: 24Pe c: 1 d: 1 e: 3 f: ♀ g: ♀24	D: a: 24BrLa5 b: - c: 1 d: 135 e: - f: - g: - h: - j: - k: 13 l: 3 m: - Sex: ♀ No. 67 Age (40 – 50) yrs Mat.	E: a: - b: - c: (236) d: (2) e: (2) f: 1 g: 2 h: 2a j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: o b: - c: 567 d: 3 e: 3 f: - g: 1 G: a: 2-3 b: 2 c: 2-3 d: 1-2a e: - f: 3 J: 13 K: d 1-2
A: a: 134 b:4aZyEt Oc c: 1 d:2 e: ?X0000XX+XX000XI? / XIIX0000-00X0XII0 f: 3 g: 3 h: 1-3 ka:123- kb: 1234- kc:123- kd: 0 ke: 0 l: 0-1 m: 1	B: a: - b: 5 c: - d: 0-1 e: 2 f: 2 C: a: - b: 235 c: 12 d: 1245 e: 1 f: 1 g: 3bd h: 3 j: 2 H: a: 134 b: 2 c: 1 d: 1-2 e: 2-3 f: ♀ g: ♀24	D: a: 257 b: 0-1 c: 0-1 d: 125 e: 1 f: 0-1 g: 3 h: 1-2 j: 2 k: 13(4) l: 3 m: 2 Sex: ♀ No. 68 Age (40 – 50) yrs Mat.	E: a: - b: 135 c: 256 d: 1 e: 2 f: 0-1 g: 1 h: 2a j: 256 k: 1 l: 1 m: 1 n: (2) o: 1248 af p: 1ad q: 1 r: 23la s: 1 t: (1) u: - v: -	F: a: - b: - c: - d: - e: - f: - g: (2) G: a: 1 b: 1 c: 3 d: 2-3a e: 3 f: 5 J: - K: a0, b(a), ce

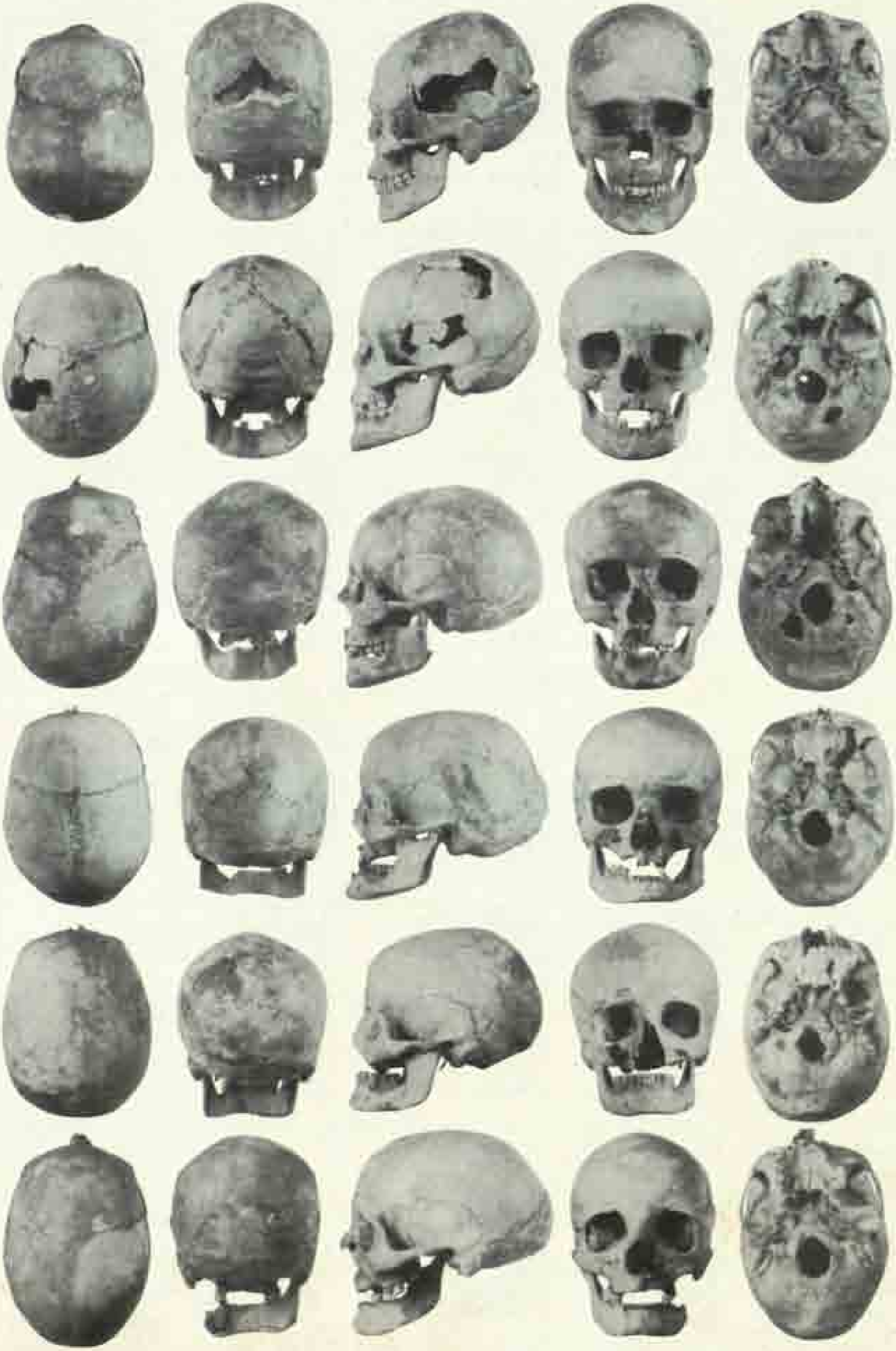


C 17

A: a: 5-45 b: 1 c: 2 d: 3 e: 0000X000+X0000000 00000000-00000000 f: 2 g: 1 h: 0-1 ka:123- kb: 1234- kc:123- kd: La4 ke:0 i: 2-3 m: 2	B: a: - b: 4 c: - d: 1 e: 1,2 f: 1 C: a: - b:2326 c: 12 d:1-23 e: 1 f: 1-2 g: 3bc h: 2 j: 2 H: a:45 b: 2 c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a:254La7 b:1 c: 1 d: 25 e: 1 f: 0 g: 3 h: 1 j: 1 k: 13 l:1 m:1 Sex: ♀ No. 69 Age (25 - 30) yrs Ad.	E: a: - b:135 c: 56 d: 2 e: 3 f: 1 g: 1 h:2-3a j: 145 k: 1 l: 1 m:3 n: 2 o: 12-358 bdf p: 2ad q: 3 r: 11 s: 1 t: 3 u: 15uv v: 24	F: a: o b: 3li c: 2357 d: 2 e: 3 f: 0-1 g: 1 G: a: 2 b: 2 c: 2 d: 3a e: 2 f: 4 J: 3 K: a3, d1-2
A: a: 145 b:Fco4Er Zy c: 2 d:3 e: 000XX000+00000XX0 AA 0000000X-00000000 f: 2-3 g: 1(-2) h: 0-2 ka:1+2+3+ kb: 1234+ kc:123- kd: 0 ke:0 l: 1 m: 1-2	B: a: - b: 2-3 c: (69) d: 1-2 e: 1-2 f: 1 C: a: - b: 35 c: 35 d: 1-23 e: 1 f: 1-2 g:24bc h: 3 j: 3 H: a:145 b: 2 c: 1-2 d: 1-2 e: 1 f: ♀ g: ♀24	D: a: 24BrLa68 b: 0-1 c: 1 d:135 e: 1 f: 0 g: 3 h: 0 j: 2 k: 3 l: 2 m: 1 Sex: ♀ No. 71 Age (40 - 50) yrs Mat.	E: a: - b:136 c: 56 d: 2 e: 3 f: 1 g: 1 h: 2-3c j: 245 k: 1 l: 1 m: 1 n: 2 o: 12-356 bdef p: 2ad q: 2 r: 2ha s: 1 t: 2 u: 24b v: 12(b+)	F: a: - b: 3li c: 235 d: 2 e: - f: 0-1 g: 1 G: a: 2 b: 2 c: 2-3 d: 2-3a e: 1 f: 5 J: 1 K: a3, ce
A: a: 1746 b:4Fc6Ei Ma c: 1 d: 2 e: X000000X+X0000000 00000000-0000000X f: 0-2 g: 1-2 h: 0-1 ka:123- kb: 1234- kc:123- kd: Gor1, 3 Sag 4, La1, 2 ke:0 l: 1 m: 1	B: a: - b: 4(-2) c: 69 d: 1-2 e: 2 f: 2 C: a: - b: 236 c: 1246 d: 245 e: 1 f: 0-1 g: 3bc h: 2 j: 1 H: a: 1746 b: 4CoPr c: 1 d: 1-2 e: 2 f: ♀ g: ♀24	D: a: 24La8 b: 1-2 c: 1 d: 125 e: 1 f: 1-2 g: 2 h: 1 j: 1-2 k: 13 l: 2 m: 1 Sex: ♀ No. 72a Age (35 - 40) yrs Ad.	E: a: - b: 156 c: 56 d: 1 e: 1 f: 1-2 g: 1-2 h: 2a-b j: 246 k: 2 l: 2 m: 1 n: (1) o: 1248 bdf p: 3a q: 1 r: (1h)a s: 1 t: (3) u: 15uv v: 24	F: a: o b: 32a c: - d: - e: - f: - g: 1 G: a: 1 b: 2 c: 3 d: 23a e: 2 f: 5 J: 1 K: a3, ca, d2
A: a: 4+8 b: 24FrBa Sqd c: 1 d: 3 e: 00X0X0X+0X00000 00000000-00000000 f: 0-1 g: 0 h: 0-1 ka:123- kb: 1234- kc:123- kd: 0 ke: M l: 1 m: 1-2	B: a: - b: 4(-2) c: - d: 1 e: 1 f: 1 C: a: o b: 2315 c: 256 d: 2-3 e: 1 f: 0-1 g: 13bd h: 1 j: 2 H: a: 4+8 b: 2 c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 24La b: 1 c: 1 d: 13-4 e: 2 f: 2 g: 2 h: 3 j: 1-3 k: 12 l: 1 m: 1 Sex: ♀ No. 73 Age (20 - 22) yrs Ad.	E: a: - b: 136 c: 256 d: 1 e: 2 f: 1 g: 1 h: 2a j: 34 k: 2 l: (1) m: 1 n: (1) o: 1358 a-bdf p: 2ad q: 2 r: 1ha s: 1 t: 3 u: 15ub v: 124	F: a: - b: 132a c: 3628 d: 1 e: 2 f: 2-3 g: 2 G: a: 1-2 b: 1-2 c: 2-3 d: 1-2a e: 1 f: 4 J: 1 K: a2, ca, d2
A: a: 145 b: 7 c: 2 d: (3) e: X00X00XX+XX00X000 0000XX0X-0XXX0000 f: 0-3 g: 1-2 h: 0d-3a ka:123- kb: 1234- kc:123- kd: 0 ke:0 l: 1 m: 2	B: a: o b: 4 c: 4 d: 2 e: 1 f: 1 C: a: o b: 46 c: 256 d: 23 e: 1 f: 1 g: 4bc h: - j: 1 H: a: 145 b: 4Ep c: 1 d: 1-2 e: 1-2 f: ♀ g: ♀2	D: a: 14La59 b: 1 c: 1-2 d: 134 e: 1 f: - g: - h: - j: - k: 134ad l: - m: 1 Sex: ♀ No. 76 Age (35 - 40) yrs Ad.	E: a: - b: - c: 256 d: 1 e: 2 f: 1-2 g: 2 h: 2a j: - k: - l: - m: - n: - o: (248 ae) p: 1ad q: 1 r: 1ha s: - t: 3 u: 1v v: 124	F: a: - b: - c: 34 d: 3 e: - f: 0 g: 1 G: a: 2-3 b: 2-3 c: 3 d: 3a e: 1 f: 4-5 J: 1
A: a: 175 b: 2(4Frd) c: 2-3 d: 3 e: 00000000+0000R000 00000000-00000K00 A f: 0-1 g: 0-1 h: 0 ka:123- kb: 1234- kc:123- kd: Sa4 ke:0 l: 1-2 m: 2-3	B: a: - b: 4 c: - d: 1 e: 1-2 f: 1 C: a: - b: 2326 c: 1246 d: 1-23 e: 1 f: 1 g: 4ac h: 2 j: 2 H: a: 175 b: 4Ep c: 2-3 d: 2 e: 1 f: ♀ g: ♀24	D: a: 24La58 b: 0-1 c: 0-1 d: 34 e: 2 f: 2 g: 2 h: 2-3 j: 2 k: 134ad l: 1 m: 1 Sex: ♀ No. 79 Age (25 - 30) yrs Ad.	E: a: - b: 46 c: 56 d: (2) e: 3 f: 1 g: 1 h: 2-3a j: 56 k: 0-1 l: 1 m: 3 n: 3 o: 12-348 bde p: 3ad q: 1 r: 1ha s: 2 t: 3 u: 15uv v: 126	F: a: - b: 32a c: 157 d: 3 e: 3 f: 0-1 g: 1 G: a: 2-3 b: 2-3 c: 3 d: 3a e: 1 f: 5 J: 3 K: a3, d1-2

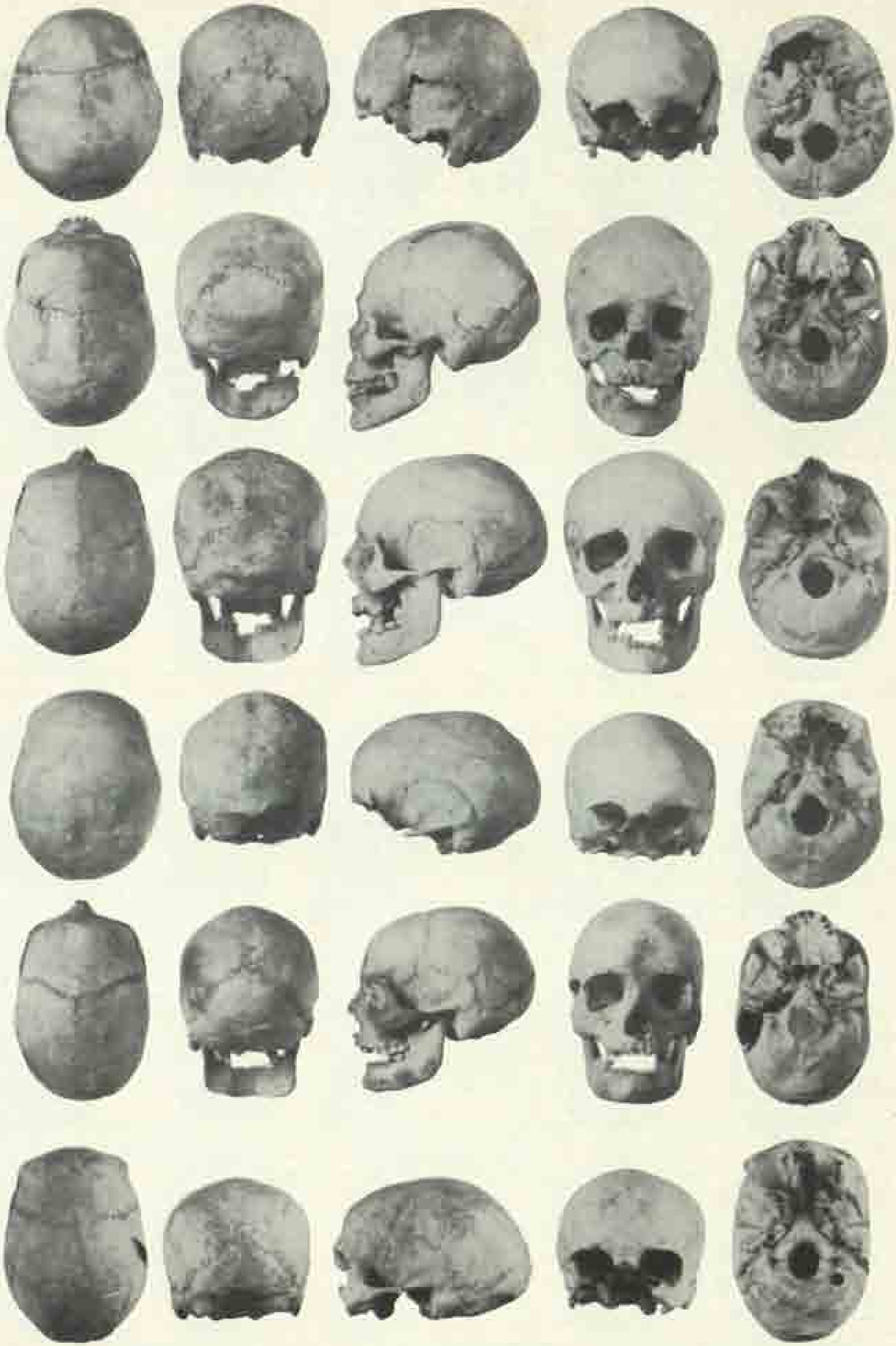


A: a: 147 b: 64EtPa Ot c: 2-3 d: 2 e: X00000X0+00000000 / 0C000Y00-X0000000 f: 2-3 g: 1-2 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1-2 m: 2	B: a: - b: 4(-3) c: - d: 1 e: 2-3 f: 2 C: a: - b: 2326 c: 2 d: 13 e: 1 f: 1 g: 4ad h: (2) j: (3) H: a: 147 b: 46Ep c: 1-3 d: 1 e: 3 f: ♀ g: ♀24	D: a: 24BrLa b: 1-2 c: 1-2 d: 134 e: 1 f: 2-3 g: 2 h: 3 j: 2 k: 13 l: 2 m: 3 Sex: ♀ No. 80 Age (35 - 40) yrs Ad.	E: a: - b: 54 c: 36 d: 1 e: 1 f: 2 g: 1 h: 1-2a j: 56 k: 2-3 l: 1 m: 1 n: 3 o: 12-358 b d e p: 2ad q: 2 r: 232bv pe2 s: (0-1) t: 4 u: 2-35 av v: 134-7	F: a: - b: 32a c: 5628 d: 1 e: 2 f: 2-3 g: 1 G: a: 2 b: 2-3 c: 3 d: 2-3b e: 1 f: 5 J: 1 K: c4
A: a: 147 b: 4PaSqd c: 1 d: 2 e: 00000XX+XX00X00X / 00000X-X00XX000 KKK K KK f: 0-2 g: 1 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 1, 7 cm(M) l: 0-1 m: 1	B: a: o b: 4 c: 6 d: 1-2 e: 1 f: 3 C: a: - b: 46 c: 12 d: 28 e: 1 f: 0-1 g: 3bc h: 1 j: 1 H: a: 147 b: 56Ep4Pe c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 26 b: 1 c: 1 d: 25 e: 1 f: 2 g: 2 h: 2 j: 2 k: 13 l: 2 m: 2 Sex: ♀ No. 82 Age (25 - 30) yrs Ad.	E: a: - b: 23 c: 256 d: 2 e: 2 f: 1 g: 1-2 h: 3b j: 34 k: 2-3 l: 2 m: 1 n: 1 o: 12-358 b d e p: 2ad q: 3 r: 3ia s: 1 t: 1 u: 1v v: 24	F: a: o b: 4 1i c: 567 d: 1 e: 3 f: 1 g: 1 G: a: 1 b: 1-2 c: 2-3 d: 2a e: 1 f: 5 J: 12 K: a6
A: a: 147+56 b: 24Et c: 1 d: 3 e: XAI000AA+AX00XKKK / KKA00000-000XXXXX f: 2-3 g: 1 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 2 m: 1	B: a: o b: 3-4 c: 168 d: 0-1 e: 2-3 f: 2 C: a: o b: 46 c: 346 d: 245 e: 1 f: 1 g: 3bc h: 1 j: 1 H: a: 147+ 56 b: 1 c: 0-1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 236 b: 0-1 c: 1 d: 515 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♀ No. 84 Age (35 - 40) yrs Ad.	E: a: - b: 1315 c: 136 d: 2 e: 1 f: 1 g: 0-1 h: 3a j: 245 k: 0-1 l: 3 m: 3 n: 2 o: 1248 b d e p: 3ad q: 2 r: 3lapr1 s: 3 t: 1 u: 35b v: 135	F: a: o b: 32a c: 568 d: 3 e: - f: - g: 1 o G: a: 1 b: 1 c: 2 d: 1-2a e: 3 f: 2 J: 3 K: a2, e6
A: a: 147 b: 24Et c: 1-2 d: 1 e: ?IIAAAAX+XXXXIII? / KK000XXX-XXXAXIXX f: 2-3 g: 3 h: 1-2 ka: 12-3+ kb: 1234- kc: 123- kd: 1a123 ke: M l: 1 m: 1-2	B: a: o b: 4(-5) c: 169 d: 2-3 e: 1-2 f: 2 C: a: - b: 146 c: 12 d: 13 e: 1 f: 1-2 g: 3bcd h: 1 j: 1 H: a: 147 b: 4EpSaPe c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 14La59 b: 1 c: 1 d: 25 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♀ No. 85 Age (40 - 50) yrs Mat.	E: a: - b: 23 c: 316 d: 1 e: 3 f: 1 g: 2 h: 1-2b j: 34 k: 2-3 l: 3 m: 2 n: 1 o: 1248ae p: 3ad q: 3 r: 2ba s: 2-5 t: (2) u: 15av v: 24	F: a: o b: 4 1i c: - d: (1) e: - f: - g: (1) G: a: 1 b: 1-2 c: 3 d: 1-2a e: 1 f: 5 J: 1 K: a1-2, e6
A: a: 116 b: 4EtMx c: 2 d: 2 e: ----1+1----- / 00000000-000000III f: 2 g: 3 h: 2 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: M l: 1 m: 1-2	B: a: o b: 4 c: 169 d: 1-2 e: 1 f: 2 C: a: o b: 236 c: 356 d: 245 e: 1 f: 1-2 g: 24ac h: 1 j: 2 H: a: 134 b: 24Sa c: 1 d: 1 e: 6 f: ♀ g: ♀24	D: a: 24Bre b: 0-1 c: 1 d: 125 e: 1 f: - g: - h: - j: - k: 3 l: 1 m: 2 Sex: ♀ No. 87 Age (50 - 60) yrs Mat.	E: a: - b: - c: 256 d: 1 e: 2 f: 1 g: 2 h: 2a j: - k: 2 l: - m: - n: - o: 12358 b d e p: 2ad q: 2 r: - s: - t: - u: 2-5b v: 135	F: a: o b: 4 1i c: - d: - e: - f: 1 g: - G: a: 2 b: 2 c: 3 d: 3a e: 1 f: 2-3 J: 14 K: a4, c(d)+e
A: a: 1245 b: 2Mx6 c: 2 d: 3 e: 00XXXXXI+11111X00 / 00IIII11-IIXXXX00 f: 3 g: 2-3 h: 2 ka: 12-3+ kb: 1234- kc: 123- kd: 0 ke: 0 l: 0-1 m: 1	B: a: - b: 4(-3) c: - d: 2-3 e: 1 f: 1 C: a: - b: 235 c: 1 d: 13 e: 1 f: 1-2 g: 14ac h: 2 j: 3 H: a: 1245 b: 34PeSa6Ep c: 1 d: 1 e: 1 f: ? g: ♀24	D: a: 14BrLa 69 b: 0-1 c: 0-1 d: 125 e: 1 f: 0 g: 3 h: 0 j: 1 k: 1 l: 1 m: 1 Sex: ♀ No. 89b Age (40 - 50) yrs Mat.	E: a: - b: 1315 c: 56 d: 1 e: 3 f: 0-1 g: 2-3 h: 3a j: 2425 k: 0-1 l: 1 m: 3 n: 2 o: 1358 b d f p: 2ad q: 1-2 r: 2ba s: - t: 2 u: 35mb v: 35	F: a: - b: 32a c: 5628 d: 1 e: 1-2 f: 1 g: 1 G: a: 1 b: 2 c: 3 d: 3a e: 2 f: 3-4 J: 12 K: a3-4, c d

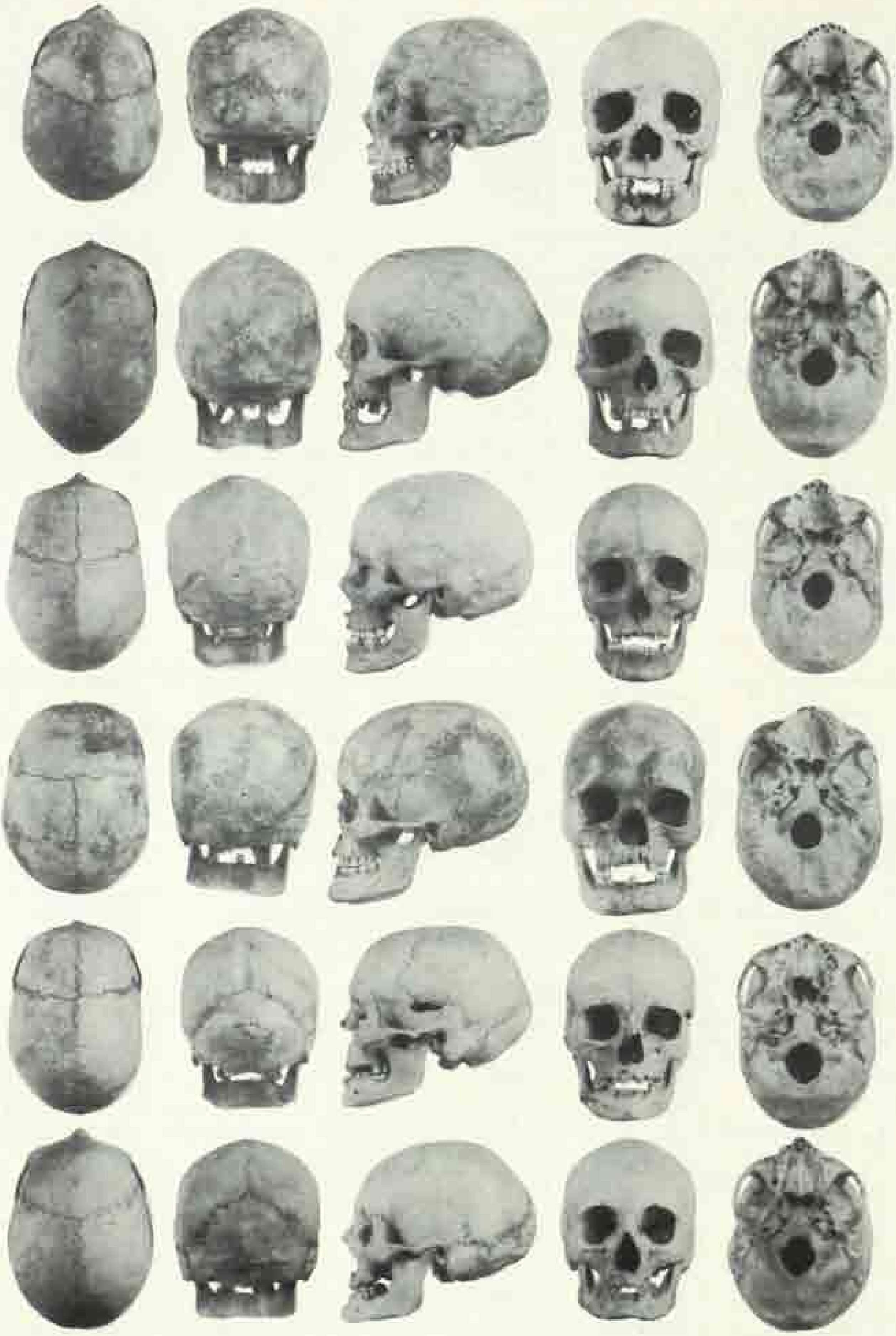


C 21

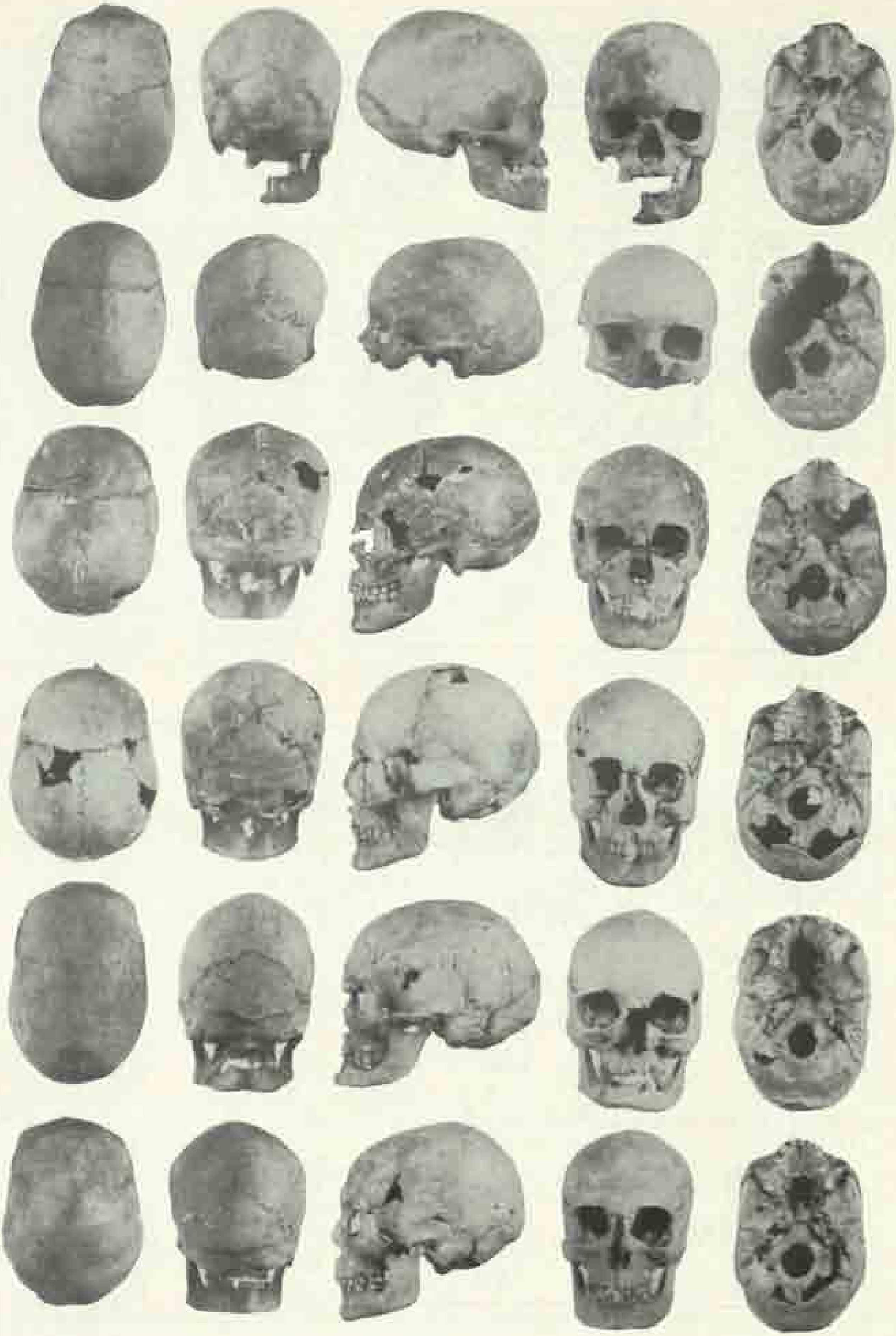
A: a: 1245 b: 4FcB c: 1 d: 1-2 e: ?XA0XXXX+X0X0AA0? ?XXX0XX0 - XXXX00IX f: 2-3 g: 3 h: 3 ka: 123- kb: 1234- kc: 123- kd: Sa4 ke: 0 l: 1 m: 1-2	B: a: o b: 4(-2) c: 689a d: 1 e: 2 f: 2 C: a: - b: 234 c: 12 d: 23 e: 1 f: 0-1 g: 3ac h: 2 j: 2 H: a: 1245 b: 74PeHuRa c: 1 d: 1-2 e: 2 U! f: ♀ g: ♀24	D: a: 14La579 b: 1-2 c: 1-2 d: 125 e: 1 f: - g: - h: - j: - k: 1 l: 5 m: 2 Sex: ♀ No. 89 d Age (40 - 50) yrs Mat.	E: a: - b: - c: 136 d: 1 e: 2 f: 2 g: 1 h: 2a j: - k: - l: - m: - n: - o: - p: - q: - r: - s: 1-2 t: - u: 2b v: 134	F: a: - b: 142a c: 1561 d: 1 e: 1 f: 1 g: 3 G: a: 2 b: 1-2 c: 2 d: 2a e: 1 f: 4 J: -
A: a: 1245 b: 24Mx c: 2 d: 2 e: XAA00XXX+X000R0K0 00A00000-1X0000X0 f: 2-3 g: 2-3 h: 1-2 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1-2 m: 1-2	B: a: - b: 4(-2) c: - d: 1-2 e: 1-2 f: 3 C: a: - b: 2326 c: 426 d: 23 e: 1 f: 0-1 g: 24ac h: 2 j: 2 H: a: 1245 b: 7 c: 1 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: 24La7 b: 1-2 c: 1-2 d: 124 e: 2 f: 3 g: 1 h: 3 j: 1-2 k: 13 l: 2 m: 2 Sex: ♀ No. 90 Age (40 - 50) yrs Mat.	E: a: - b: 135 c: 3 d: 2 e: 1 f: 2 g: 1 h: 1a j: 245 k: 2 l: 1 m: 2 n: 2 o: 12-358 bde p: 2ad q: 1 r: 31 s: 1 t: 1 u: 25a v: 35	F: a: o b: 3 ll c: 5628 d: 1 e: 2 f: 3 g: U G: a: 1-2 b: 2 c: 2 d: 2a-b e: - f: 4 J: 1 K: a1
A: a: 74 b: 2 c: 2-3 d: 3 e: I0AXIXXX+I1XX0011 0000000X-XXX00000 f: 1-2 g: 1 h: 2-3 ka: 12-34 kb: 1-234+ kc: 123- kd: 0 ke: M l: 2 m: 2-3	B: a: - b: 4 c: - d: 1-2 e: 1-2 f: 2 C: a: - b: 46 c: 246 d: 246 e: 1 f: 1 g: 13bd h: 1 j: 1 H: a: 74 b: 6Pe c: 2-3 d: 2 e: 2 f: ♀ g: ♀24	D: a: 14BrLa567 b: 1 c: 1 d: 125 e: 1 f: 6 g: 3 h: 1 j: 1 k: 13 l: 1 m: 1 Sex: ♀ No. 91 Age (40 - 50) yrs Mat.	E: a: - b: 45 c: 236 d: 2 e: 2 f: 1 g: 1 h: 3a j: 45 k: 1 l: 3 m: 3 n: 3 o: 12-358 bde p: 2ad q: 2-3 r: 2b s: (1) t: 3 u: 1-2 v: 12(4)	F: a: - b: 14 ll c: 2325 d: (2) e: (3) f: - g: 1 G: a: 2 b: 2 c: 3 d: 2a e: 1 f: 3 J: 1 K: 2-3, b(a)
A: a: 1245 b: 4Mx c: 1 d: 3 e: --------+------- KIIIX000-0000XII f: 2 g: 2 h: 2-3 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: M l: 1 m: 1	B: a: o b: 4 c: 6d d: 1 e: 1 f: 2 C: a: o b: 2326 c: (3) d: 23 e: 1 f: 2 g: 3bd h: 2 j: - H: a: 1245 b: 6PeEp c: 2 d: 1-2 e: 1 f: ♀ g: ♀24	D: a: 1Br568 b: 1 c: 1 d: 25 e: 1 f: - g: - h: - j: - k: 13 l: 1 m: - Sex: ♀ No. 92 Age (50 - 60) yrs Mat.	E: a: - b: - c: 256 d: 2 e: 3 f: 1 g: 1 h: 2-3a j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: 42a c: - d: - e: - f: 0 g: - G: a: 1 b: 1-2 c: 2 d: 2a-b e: 2 f: 5 J: 12 K: a 0-1
A: a: 1257 b: 4SqtMad c: 2-3 d: 1 e: X00X0XXX+X0XXX000 000XXXXX-XXXXX000 f: 0-2 g: 0-2 h: 0 ka: 12-34 kb: 1234- kc: 123- kd: 0 ke: 1/2M l: 1 m: 1-2	B: a: - b: 4 c: - d: 1 e: 1 f: 1 C: a: - b: 2326 c: 346 d: 1-23 e: 1 f: 0-1 g: 24bc h: 2 j: 1 H: a: 1257 b: 1 c: 1 d: 1 e: 3 f: ♀ g: ♀24	D: a: 26 b: 0-1 c: 1 d: 125 e: 1 f: 1-2 g: 2 h: 0 j: 2 k: 3 l: 2 m: 1 Sex: ♀ No. 93 a Age (30 - 35) yrs	E: a: - b: 1213 c: 156 d: 2 e: 3 f: 1 g: 1 h: 2b j: 34 k: 1 l: 2 m: 1 n: 1 o: 12-358 bde p: 2ad q: 2-3 r: 1b s: 2 t: 1 u: 24b v: 134	F: a: - b: 4 ll c: 567 d: 1 e: 3 f: 0 g: 1-U G: a: 2-3 b: 1 c: 3 d: 1a e: 1 f: 3 J: - K: a0
A: a: 45 b: 34FrPsMx c: 2 d: 2 e: ---------+--------- ???XXXXX-XXXX0II? f: (2) g: (2) h: - ka: 123- kb: 1234+ kc: 123- kd: La1 ke: 0 l: 1 m: 2	B: a: - b: 4(-2) c: - d: 2 e: 1 f: 1 C: a: - b: 46 c: 1246 d: 23 e: 1 f: 2 g: 13bd h: 1 j: 3 H: a: 45 b: 4-6 c: 1 d: 1 e: 2-3 f: ♀ g: ♀64	D: a: 24La68 b: 1 c: 1-2 d: 125 e: 1 f: - g: - h: - j: - k: 3 l: 1 m: 1 Sex: ♀ No. 93 b Age (35 - 40) yrs Ad.	E: a: - b: 36 c: 136 d: 1 e: 1 f: 2 g: 1 h: 3a j: - k: 1 l: - m: - n: - o: 12-358 bde p: 2a q: 1 r: - s: - t: - u: - v: -	F: a: - b: 3 ll c: - d: - e: - f: - g: - G: a: 1 b: - c: 1 d: 1a e: - f: - J: 1 K: a6



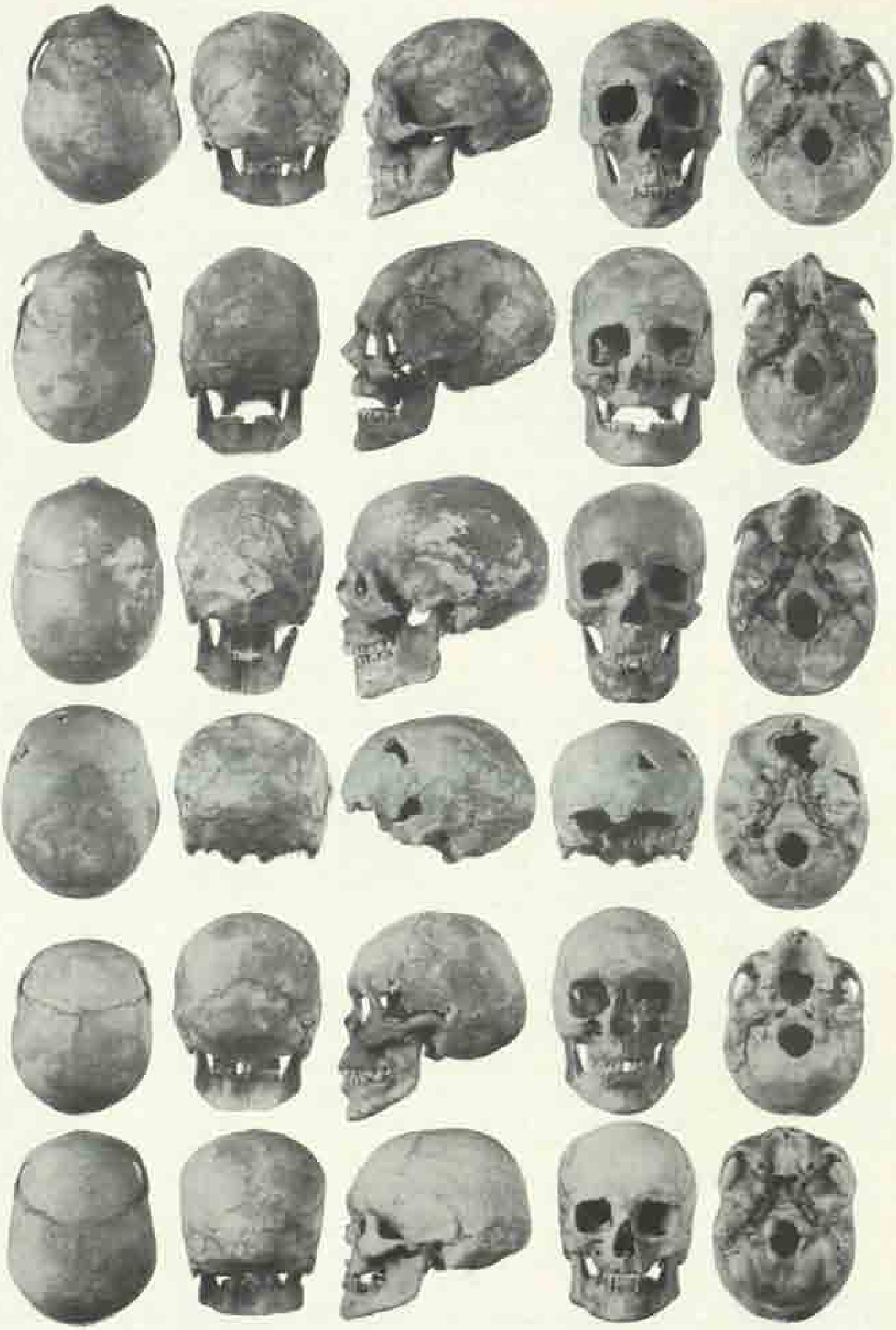
A: a: 1245 b: 1 c: 2 d: 2 e: ?00000X0+0X0K000X / 00000X0X-X 0X00000 A A f: 1-2 g: 0-1 h: 0 ka: 123- kb: 1234- kc: 123- kd: Sa4*) ke: 0 l: 2 m: 2 *)Oa inc.	B: a: – b: 4(-2) c: – d: 1-2 e: 2-3 f: 1 C: a: – b: 235 c: 356 d: 245 e: 1 f: 2 g: 24bc h: 2 j: 3 H: a: 1245 b: 2 c: 1-2 d: 1 e: 2-3 f: ♀ g: Q24	D: a: 14BrLa68 b: 0-1 c: 1 d: 25 e: 1 f: 2 g: 2 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♀ No. **94 a** Age (30 - 35) yrs Ad.	E: a: – b: 45 c: 36 d: 1 e: 1 f: 0-1 g: 2 h: 2b j: 56 k: 0-1 l: 2 m: 3 n: 3 o: 12578 bde p: 2ad q: 2-3 r: 3la s: 2 t: 1 u: 35ub v: 35	F: a: – b: 4La c: 2357 d: 2 e: 2 f: 0 g: 1 G: a: 2 b: 2-3 c: 2-3 d: 1a e: 2 f: 1-2 J: + K: c da, eb
A: a: 75 b: 1 c: 2-3 d: 3 A A K e: 001000XX+0 000IIIK / IIIIX00X-X000OII0 f: 2 g: 3 h: 0-2 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: (M)+ l: 2 m: 2	B: a: – b: 4(-2) c: – d: 1 e: 1 f: 1 C: a: – b: 135 c: 346 d: 246 e: 1 f: 2-3 g: 3bc h: 2 j: 3 H: a: 75 b: 2 c: 2-3 d: 2-3 e: 1 f: ♀ g: Q24	D: a: 14BrLa568-9 b: 0-1 c: 0-1 d: 25 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♀ No. **95** Age (50 - 60) yrs Mat.	E: a: – b: 45 c: 56 d: 2 e: 3 f: 0-1 g: 1 h: 3a-b j: 56 k: 0-1 l: 3 m: 3 n: 3 o: 1258 bdf p: 2ad q: 3 r: 2a s: 1-2 t: 3 u: 2-3mb v: 134	F: a: – b: 4a c: 567 d: 1 e: 3 f: 0 g: 1 G: a: 2 b: 2 c: 3 d: 1-2a e: 1 f: 3 J: –
A: a: 1274 b: 1 c: 2-3 d: 3 e: 000X0XX+XX 00000 / 000 0000-0000X0I0 f: 1 g: 0-1 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: 0 ke: M l: 1-2 m: 2-3	B: a: – b: 4(-2) c: – d: 2 e: 2 f: 1 C: a: – b: 135 c: 356 d: 145 e: 1 f: 2 g: 3bd h: 3 j: 3 H: a: 1274 b: 2 c: 1-2 d: 1 e: 2-3 f: ♀ g: Q24	D: a: (1) b: 0-1 c: 1 d: 135 e: 1 f: 0 g: 3 h: 1-2 j: 1 k: 23 l: 2 m: 2 Sex: ♀ No. **96** Age (30 - 35) yrs Ad.	E: a: – b: 45 c: 56 d: 2 e: 3 f: 0 g: 2 h: 2-3a j: 56 k: 1 l: 3 m: 3 n: 3 o: 1258 bdf p: 2ad q: 1 r: 1ha s: 2-3 t: 3 u: 2-35mb v: 134	F: a: – b: 3 li c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 1-2 b: 1 c: 3 d: 1-2a e: 1 f: 3-4 J: – K: a0, c da
A: a: 125+8 b: 1 c: 2 d: 3 *) e: X00000XXX+XXX 00000 / 0000XX00-XXXX0000 K f: 2 g: 0-1 h: 0 ka: 123- kb: 1234- kc: 123- kd: Sag 2, 4 La 1 ke: 0 l: 0-1 m: 1-2 *) supernumerary	B: a: – b: 4 c: – d: 3 e: 2 f: 1 C: a: – b: 35 c: 1245 d: 245 e: 1 f: 2 g: 3bd h: 3 j: 3 H: a: 125+8 b: 2 c: 1 d: 1 e: 2-3 f: ♀ g: Q24	D: a: 237 b: 1-2 c: 1-2 d: 25 e: 1 f: 1-2 g: 2 h: 3 j: 1-2 k: 3(4) l: 3 m: 2 Sex: ♀ No. **97 a** Age (25 - 30) yrs Ad.	E: a: 0 b: 23 c: 56 d: 2 e: 3 f: 1-2 g: 3 h: 1-2a j: 34 k: 2-3 l: 2 m: 1 n: 1 o: 12358bdf p: 2ad q: 3 r: 3lvpr2 s: 1 t: 1 u: 15uv v: 24	F: a: 0 b: 24li c: 2357 d: 2 e: 3 f: 1 g: 1o G: a: 2*) b: 1-2 c: 3 d: 2b e: 3 f: 3 J: – K: a 1-2, e4 *asymm. proc. artic. d. higher
A: a: 1247 b: 24SqaMn c: 1 d: 2 e: 00000X0A+X0XXXX00 / X0X0XXX-XXXX00X f: 0-3 g: 0-1 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La2 ke: M l: 1-2 m: 2	B: a: – b: 4 c: – d: 2 e: 1 f: 1 C: a: – b: 1315 c: 12 d: 1-23 e: 1 f: 0-1 g: 14bc h: 1 j: 2 H: a: 1247 b: 2 c: 0-1 d: 1 e: 3 f: ♀ g: Q24	D: a: 23BrLa7 b: 1 c: 1 d: 25 e: 1 f: 0 g: 3 h: 0-1 j: 2 k: 1 l: 2 m: 1 Sex: ♀ No. **97 b** Age (25 - 30) yrs Ad.	E: a: – b: 1315 c: 56 d: 1 e: 3 f: 1 g: 1 h: 2c j: 34 k: 2-3 l: 2 m: 1 n: 1 o: o234-58bde p: 2a3d q: 2 r: 3lepr1 s: – t: 1 u: 25uv v: 24	F: a: – b: 14a c: 567 d: 1 e: (3) f: ? g: 1 G: a: 1 b: 1 c: 3 d: 1a e: 1 f: 3 J: 1 K: c da
A: a: 147 b: 2 c: 1 d: 1 A e: I1111XXX+XXXI111? / ?0000II-XXX000X? A A A f: 3 g: 2-3 h: – ka: 12-3+ kb: 1234- kc: 123- kd: 0 ke: 0 l: 1-2 m: 1	B: a: – b: 4 c: – d: 1 e: 2 f: 1 C: a: – b: 236 c: 346 d: 13 e: 1 f: 2-3 g: 4bc h: 2 j: 1 H: a: 147 b: 45aPeTia c: 1 d: 2 e: 1 f: ♀ g: Q24	D: a: 2367 b: 1-2 c: 1-2 d: 25 e: 1 f: 0 g: 3 h: 1-2 j: 1 k: 3 l: 2 m: 1 Sex: ♀ No. **98 a** Age (40 - 50) yrs Mat.	E: a: – b: 45 c: 256 d: 2 e: 2 f: 1-2 g: 2 h: 2a j: 56 k: 0-1 l: 3 m: 3 n: 1 o: 1248a-bdf p: 3ad q: 1 r: 1ha s: – t: 3 u: 1-25mb v: 2(4)	F: a: – b: 14a c: (28b) d: – e: (2) f: 2 g: (U) G: a: 1 b: 1-2 c: 2 d: 1a e: (2) f: 3 J: 1 K: a3



A: a: 1245 b: 4Mn c: 3 d: 2 e: 00KKXXX+XX0KXK0 ----+XXX-XX000KX f: 1 g: 1-2 h: 0 ka: 123- kb: 1234- kc: 123+ kd: Sa 4 ke: 0 l: 1 m: 1	B: a: - b: 2 c: - d: 1-2 e: 1-2 f: 1 C: a: - b: 135 c: 12 d: 245 e: 1 f: 0-1 g: 1lac h: 2 j: 3 H: a: 1245 b: 2 c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 237 b: 2 c: 2 d: 25 e: 1 f: 2 g: 2 h: 5 j: 2 k: 15 l: 2 m: 2 Sex: ♀ No. 101 Age (20 - 25) yrs Ad.	E: a: - b: 23 c: 256 d: 2 e: 2 f: 2 g: 1 h: 2c j: 56 k: 1-2 l: 1 m: 1 n: 3 o: 135-68bdf p: 2ald q: 2-3 r: 3lvpr2 s: 1 t: 1 u: 15ub v: 2(5)	F: a: - b: 311 c: 567 d: 1 e: 3 f: 3 g: 2 G: a: 1 b: 1 c: 2 d: 1a e: - f: - J: 4 K: a1-2
A: a: 1245 b: 84Fc5qd c: 0-1 d: (2) e: ---------+--------- ----------------- f: - g: - h: - ka: 123- kb: 1234- kc: 123- kd: La1 ke: M l: 0-1 m: 1	B: a: - b: 4(-2) c: - d: 2-3 e: 2 f: 2 C: a: - b: 136 c: 12 d: 245 e: 1 f: 0-1 g: 5c h: (2) j: 3 H: a: 1245 b: 7 c: 0-1 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: 14BrLa67 b: 1 c: 1 d: 25 e: 1 f: - g: - h: - j: - k: 3 l: 2 m: 2 Sex: ♀ No. 106 Age (40 - 50) yrs Mat.	E: a: - b: (23) c: 56 d: 1 e: 3 f: 1 g: 2 h: 2a j: (34) k: 1 l: - m: - n: - o: 12356ae p: 2ad q: 2 r: - s: - t: - u: 35ub v: 35	F: a: - b: 1411 c: - d: - e: - f: - g: - G: a: - b: - c: - d: - e: - f: - J: - K: a0, e6
A: a: 258 b: 8 c: 2 d: 3 e: 00000000+X0000000 000000XX-XX000000 f: 0 g: 0 h: 0-1 ka: 123- kb: 1234+ kc: 123- kd: 0 ke: 0 l: 0-1 m: 2	B: a: - b: 4 c: - d: 1 e: 1 f: 2 C: a: - b: 146 c: 2-346 d: 2-3 e: 1 f: 1 g: 3lbc h: 1 j: 3 H: a: 258 b: 24Pe c: 2 d: 1 e: 2 f: ♀ g: ♀24	D: a: 257 b: 1-2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 1 j: 2 k: 3 l: 1 m: 2 Sex: ♀ No. 224 Age (20 - 25) yrs Ad.	E: a: - b: 45 c: 136 d: (1) e: 2 f: 1 g: 1 h: 2a j: 56 k: - l: - m: (1) n: - o: 12348bde p: (3ad) q: 2 r: 3b s: - t: - u: 1-2b v: 124	F: a: - b: 231r c: 2328d: 2 e: r f: - g: - G: a: 2 b: 2 c: 3 d: 2a e: 1 f: 4 J: - K: a0, b(s), cd+a, d2
A: a: 145 b: 68 c: 2 d: 3 e: 00K00000+X0000K00 0000000X-X0000000 f: 0-3 g: 1 h: 1-2 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 2	B: a: - b: 4(-3) c: - d: 2 e: 1-2 f: 1 C: a: 6 b: 136 c: 12 d: 13 e: 1 f: 0-1 g: 3bc h: 3 j: 3 H: a: 145 b: 45aPe c: 1 d: 1 e: 1-2 f: ♀ g: ♀24	D: a: 27 b: 1 c: 1 d: 25 e: 1 f: 0 g: 3 h: 0 j: 1 k: 12 l: 3 m: 2 Sex: ♀ No. 225 Age (30 - 35) yrs Ad.	E: a: - b: 45 c: 256 d: - e: 2 f: 1 g: 2 h: 2a j: 56 k: 1 l: 2 m: 3 n: 3 o: (1)248bdf p: (3ad) q: 2 r: (1n) s: (2) t: (3) u: - v: -	F: a: o b: 41i c: 2325d: (2) e: 2 f: 1 g: 1 G: a: 2 b: 2 c: 3-1 d: 2a e: 1 f: 4 J: 1 K: a0
A: a: 25 b: 64ZydEt c: 2 d: 3 e: 00A0X0X0+00000000 00000000-X000000? f: 2-3 g: 1(-2) h: 0-1 ka: 12+3- kb: 1234- kc: 123- kd: 0 ke: 0 l: 2 m: 2	B: a: - b: 4-3 c: 1689 d: 1 e: 2 f: 1 C: a: - b: 35 c: 2-3 d: 145 e: 1 f: 2 g: 3bc h: (3) j: 3 H: a: 25 b: 2 c: 2-3 d: 2 e: 2 f: ♀ g: ♀24	D: a: 24BrLa6 b: 1-2 c: 1-2 d: 124 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 13 l: 2 m: 1 Sex: ♀ No. 226 Age (40 - 50) yrs Mat.	E: a: - b: 45 c: 2526 d: 2 e: 3 f: 1 g: 2 h: 2a j: 56 k: 0 l: 1 m: 3 n: (3) o: 12348bcf p: 3a q: 2 r: 1ha s: - t: 3 u: - v: -	F: a: o b: 41i c: 25 d: 2 e: - f: - g: 1 G: a: 1-2 b: 1-2 c: 3-1 d: 2a e: 1 f: 3 J: 1 K: a0
A: a: 45 b: 64EtMxBa c: 2-3 d: 3 e: ?00A00X0+XX0I00X0 ?IIIXXII-IIXXIIII f: 1-3 g: 3 h: 0-3 ka: 123+ kb: 1234+ kc: 123- kd: - ke: - l: 1-2 m: 2	B: a: - b: 4 c: 69 d: 1 e: 1 f: 1 C: a: - b: 35 c: 356 d: 1-23 e: 1 f: 3 g: 3bc h: 3 j: 3 H: a: 45 b: 65aPe c: 1 d: 1 e: 2 f: ♀ g: ♀24	D: a: 1568 b: 1-2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0 j: 2 k: 3 l: 1 m: 1 Sex: ♀ No. 227 Age (50 - 60) yrs Mat.	E: a: - b: 45 c: 165 d: 2 e: 3 f: 2 g: 1 h: 2a j: 156 k: 1 l: (1) m: (2) n: 3 o: 2-358bde p: 2d q: 2-3 r: (1h)apr2 s: 1-2 t: (39) u: 3v v: 34	F: a: - b: 311 c: - d: - e: - f: - g: - G: a: 0-1 b: 1-2 c: 3 d: 2a-b e: 2 f: 5 J: 1 K: a0-1

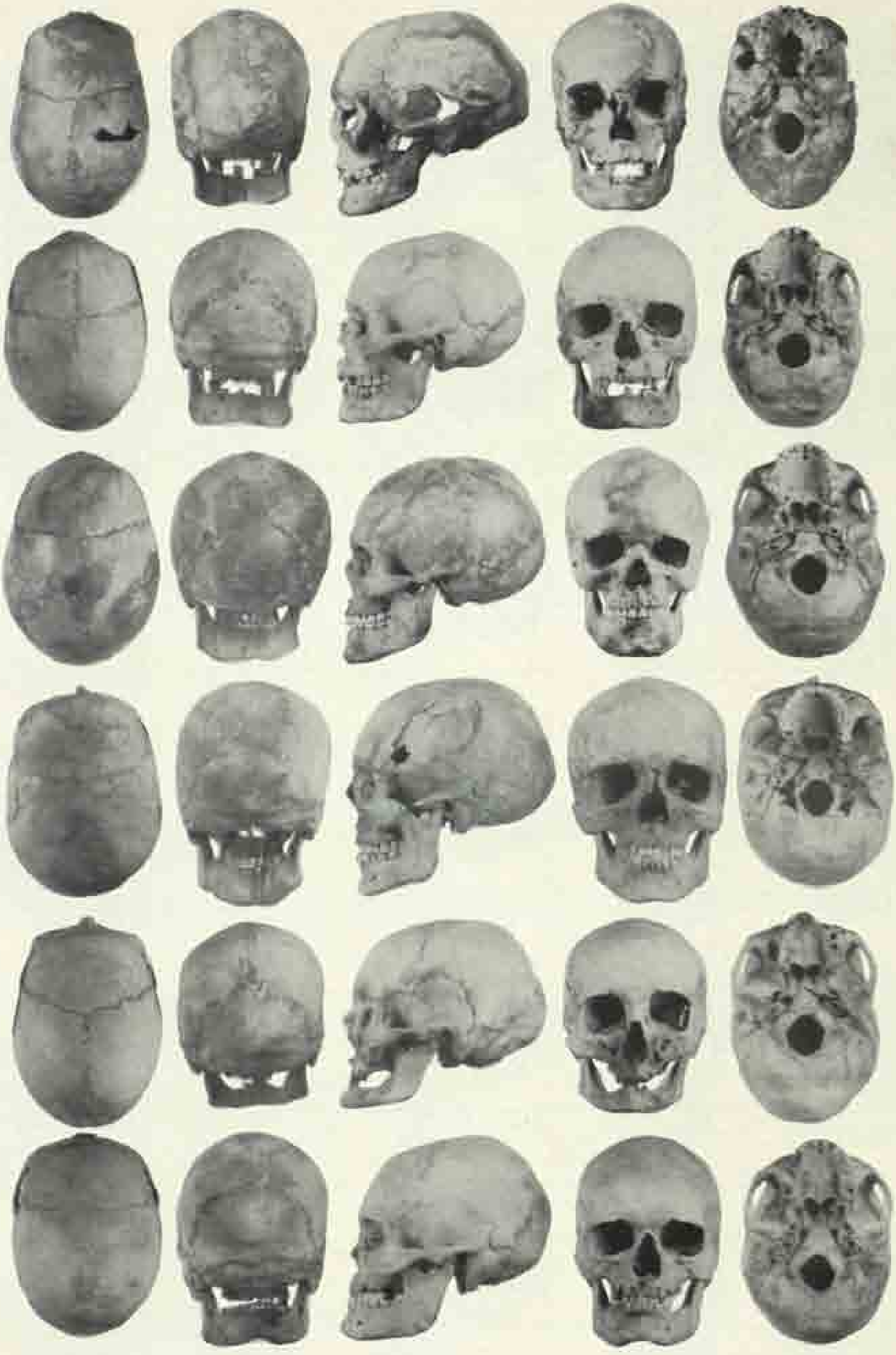


A: a: 1256 b: 15Ma c: 3 d: 3 e: 00000000+0000000X / 000000X0-0000000 f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: – ke: – l: 1-2 m: 2-3	B: a: – b: 4-5 c: – d: 0-1 e: 2-3 f: 2 C: a b: 46 c: 12 d: 2 e: 1 f: 2-3 g: 14bd h: 1 j: 1 H: a: 25 b: 2 c: 3 d: 3 e: 2-3 f: ♂ g: ♂13	D: a: 24LaT b: 2-3 c: 3 d: 124 e: 2 f: 0-1 g: 3 h: 2 j: 1 k: 13 l: 1 m: 1 Sex: ♂ No. 3 Age (20 - 25) yrs Ad.	E: a: b: 1313c: 137 d: 3(-2) e: 1 f: 3 g: 0 h: 2a j: 234 k: 3 l: 3 m: 1 n: 2 o: 2358bde p: a342 q: 2-3 r: 1ha s: 2 t: 3 u: 14v v: 24	F: a: b: 2a3 c: 357 d: 3 e: 3 f: 0 g: 1 G: a: 2-3 b: 2-3 c: 3 d: 2(a) e: 2 f: 4 J: – K: a3+4, b, d1-2
A: a: 1257 b: Mx5 4BaZyEt c: 3 d: 3 e: 0X111111+111111XX / 000000XX-X0000000 f: 3 g: 3 h: 0-1? ka: +1-23 kb: 1234+ kc: +12-3 kd: – ke: + l: 3 m: 3	B: a: – b: 4 c: 59 d: 0-1 e: 0-1 f: 1 C: a: o b: 135 c: 346 d: 13 e: 1 f: 0-1 g: 14bc h: 3 j: 3 H: a: 57 b: 46Ep c: 3 d: 3 e: 2-3 f: ○ g: ○13	D: a: 17 b: 3 c: 3 d: 124 e: 1 f: 2 g: 2 h: ? j: 2 k: 13 l: 1 m: 1 Sex: ♂ No. 4 Age (50 - 60) yrs Mat.	E: a: – b: 23 c: 36 d: 2 e: 3 f: 2-3 g: 0-1 h: 3a j: 34 k: 37 l: – m: – n: (1) o: 12358bde p: 2 q: 2 r: 1ha s: 2? t: 3 u: 25ub v: 135	F: a: o b: 3a c: 347 d: – e: – f: 0 g: ? G: a: 3 b: 2-3 c: 3 d: 2a-b e: 1 f: 4 J: 2,4 K: a0
A: a: 256 b: 4ZyedMn5 c: 3 d: 3 e: 00000000+00000000 / 0000000X-X0000000 f: 2 g: 2-3 h: 1 ka: 123- kb: 1234+ kc: 12+3- kd: 0 ke: M l: 3 m: 3	B: a: – b: 4 c: – d: 2 e: 1 f: 1 C: a: – b: 236 c: 356 d: 1-23 e: 1 f: 3 g: 14ad h: 2 j: 2 H: a: 236 b: 6 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 14B±La567 b: 3 c: 3 d: 125 e: 1 f: 0 g: 2 h: 0 j: 3 k: 3 l: 2(-1) m: 1 Sex: ♂ No. 5 Age (40 - 50) yrs Mat.	E: a: – b: 45 c: 56 d: 2(-1) e: 3 f: 2 g: 2 h: 1a j: 45 k: 1-2 l: – m: 3 n: – o: 12368bde p: 3ad q: 3 r: 2hapr0-1 s: 2 t: 2 u: 2b v: 135	F: a: – b: 3a c: 2834 d: 3 e: 1 f: 0 g: 0 G: a: 3 b: 3 c: 13 d: 1-2a e: – f: 2 J: 4 K: a4, b, ce?, d1-2
A: a: 146 b: Fe? c: 3 d: 1 e: ??AAAAXI+IXAIIIX0 / ?01000XX-XX00000III f: 2-3 g: 2-3 h: 0 ka: 1-23+ kb: 1234+ kc: 123- kd: La3 ke: 0 l: 1-2 m: 2	B: a: – b: 4 c: – d: 1 e: 1 f: 2 C: a: – b: 4-236 c: 3 d: 13 e: 1 f: 3 g: 14bd h: 2 j: 1 H: a: 145 b: 6748aPe c: 1 d: 2-3 e: 1 f: ♂ g: ♂13	D: a: 24La8 b: 2-3 c: 2 d: 125 e: 1 f: – g: – h: – j: – k: 3 l: 1 m: 1 Sex: ♂ No 6 Age (50 - 60) yrs Mat.	E: a: – b: – c: 56 d: (1) e: 3 f: 2 g: 1 h: 3a j: – k: – l: – m: – n: – o: – p: – q: 3 r: – s: – t: – u: – v: –	F: a: – b: 4ll c: – d: – e: – f: – g: – G: a: 3 b: 3 c: 2 d: 2a e: – f: – J: 1 K: a2, d?e6
A: a: 145 b: 4Ete c: 2 d: 1 e: 000K0000+X000K000 / 00000000-0K000K0 f: 1-2 g: 1-2 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1 m: 2	B: a: o b: 6 c: 69d d: 1 e: 2-3 f: 1(-2) C: a: – b: 236 c: 12 d: 23 e: 1 f: 1 g: 24bd h: 2 j: 1 H: a: 145 b: 34Pe c: 2 d: 3 e: 1-2 f: ♂ g: ♂13	D: a: (2)67 b: 2-3 c: 2 d: 25 e: 1 f: 3 g: 1 h: 2-3 j: 1 k: 3 l: 3 m: 2 Sex: ♂ No. 12 Age (35 - 40) yrs	E: a: – b: 45 c: 56 d: 2 e: 3 f: 2 g: 1 h: 2a j: 314 k: 3 l: 3 m: 3 n: 3 o: 12486de p: (3ad) q: (3) r: 2la s: – t: – u: – v: 5-	F: a: o b: 4ll c: 348 d: 2 e: 2 f: – g: 1 G: a: 2 b: 2 c: 2(-3) d: 2a-b e: 2 f: 5 J: 3 K: a3+3, d1-2, e6
A: a: 167 b: 24Ez c: 3 d: 3 e: XIIIIXIX+XI0IIIIX / 00100000-00X00100 f: 2-3 g: 2-3 h: 0-2 ka: 12-34 kb: 1-234+ kc: 123- kd: La23 ke: 0 l: 1 m: 3	B: a: (o) b: 4(-5) c: 69d d: 1 e: 3 f: 1 C: a: – b: 2326 c: 12 d: 145 e: 1 f: 1-2 g: 4bc h: 3 j: 2(-1) H: a: 167 b: 23 c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24La567 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 3 l: 1 m: 1 Sex: ♂ No. 89 a Age (40 - 50) yrs Mat.	E: a: – b: 1234: 136 d: 2 e: 1 f: 3 g: 1 h: 2a j: 134 k: 2-3 l: 3 m: 2 n: 1 o: 12356af p: 2ad q: 2 r: 1ha s: 2 t: 3 u: 1b v: 125	F: a: o b: 32a c: (625) d: (1) e: 2 f: 1 g: 0 G: a: 2-3 b: 3 c: 2 d: 2b e: 1 f: 5 J: 123 K: a0

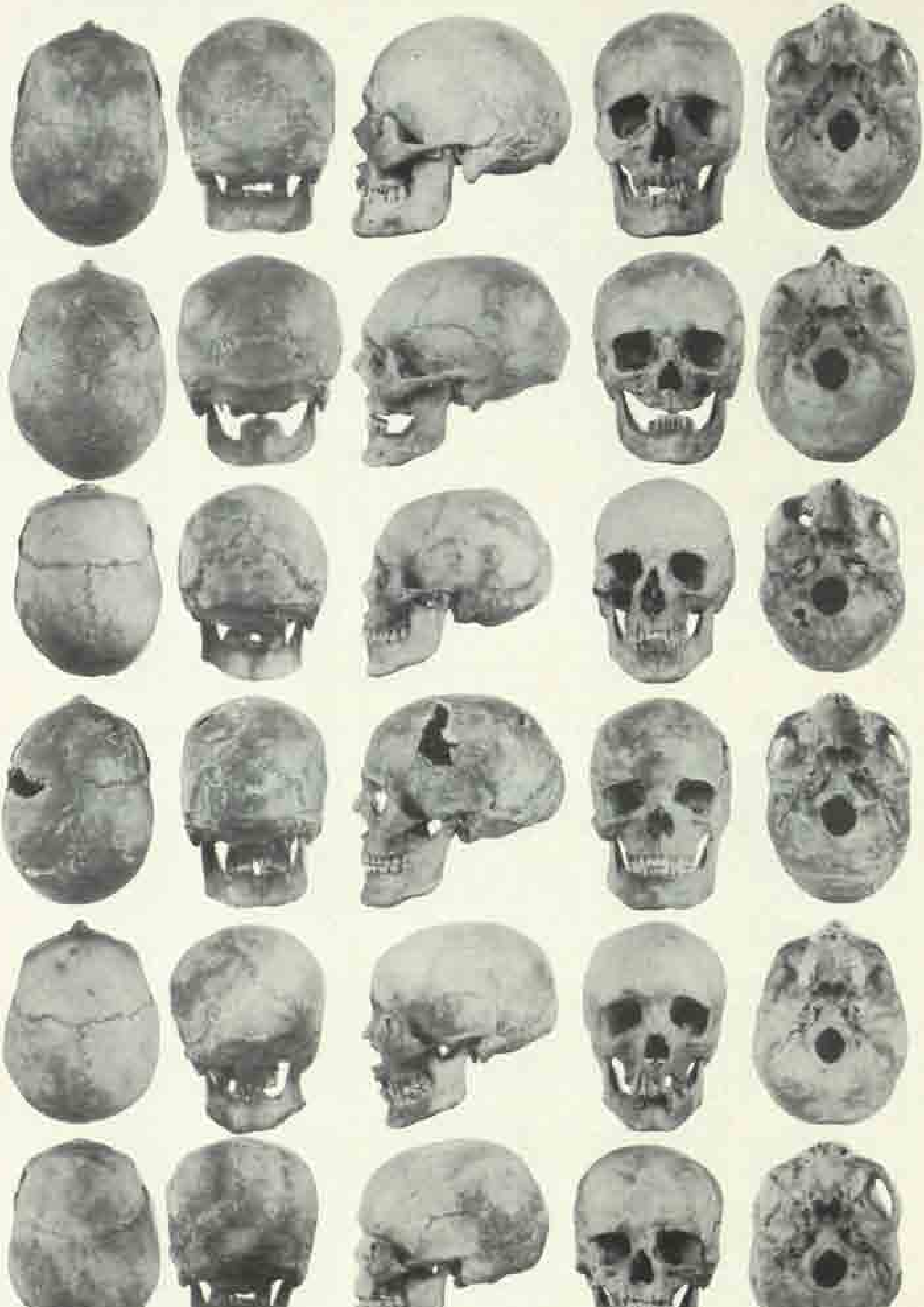


C 29

A: a: 1245 b: 4EtBa(6) c: 3 d: 2 e: 000XX00X+XX0XX00X 00000XXX-00XXX000 f: 0-2 g: 0 h: 0-2 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1-2 m: 2-3	B: a: – b: 4(-3) c: - d: 1-2 e: 2 f: 1 C: a: – b: 35 c: 2-3 d: 13 e: 1 f: 3 g: 4bc h: 3 j: 3 H: a: 1245 b: 24Tla c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24BrLa07 b: 2 c: 2 d: 125 e: 2 f: 0 g: 1 h: 0 j: 2 k: 13 l: 1 m: 1 Sex: ♂ No. 89 c Age (20 – 25) yrs Ad.	E: a: - b: 45 c: 156 d: 2 e: 3 f: 2 g: 2 h: 2a j: 34 k: – l: - m: (1) n: - o: 12-358bde p: 2a q: 2-3 r: 2 1a s: 1 t: 2 u: - v: (35)	F: a: – b: 32a c: 23567 d: - e: – f: - g: 1 G: a: 2 b: 2 c: 3 d: 2-3a e: 1 f: 6 J: – K: a2
A: a: 147+8 b: 2 c: 3 d: 1 e: 0000000A+0X0X0000 00000XXX-0XX00A00 f: 0-3 g: 0-2 h: 0-1 ka: 123- kb: 1-234+ kc: 1+23- kd: La1 ke: M l: 1 m: 2-3	B: a: – b: 4 c: – d: 1 e: 1 f: 1 C: a: – b: 2326 c: 246 d: 246 e: 1 f: 1-2 g: 13bc h: 2 j: 1 H: a: 147+8b: 24FlTla c: 2-3 d: 2-3 e: 2 f: ♂ g: ♂13	D: a: 14Br57 b: 3 c: 2-3 d: 125 e: 1 f: 1-2 g: 2 h: 0 j: 2 k: 3 l: 3 m: 1 Sex: ♂ No. 98 b Age (35 – 40) yrs Ad.	E: a: - b: 23 c: 56 d: 2 e: 3 f: 2-3 g: 2 h: 2a j: 34 k: 1 l: 1 m: 1 n: 1 o: 1358bde p: 2ad q: 3 r: 3lvpr2 s: 2 t: 1 u: 1b v: 125	F: a: – b: 4a c: 2357 d: 2 e: 3 f: 0-1 g: 0 G: a: 2-3 b: 3 c: 2 d: 2b e: 1 f: 2 J: 3- K: a0-1, a6
A: a: 25 b: 1 c: 3 d: 3 e: 0000000+00000000 00000000-00000000 f: 0-1 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: La2 ke: 0 l: 2-3 m: 3	B: a: o b: 3-4 c: 1594 d: 2 e: 2 f: 2 C: a: o b: 4a c: 2346 d: 2 e: 1 f: 2 g: 14bc h: 1 j: 1 H: a: 25 b: 1 c: 3 d: 2-3 e: 1 f: ♂ g: ♂13	D: a: 234La7 b: 3 c: 2-3 d: 125 e: 1 f: 1 g: 2 h: 1 j: 2 k: 13 l: 1 m: 2 Sex: ♂ No. 99 a Age (18 – 20) yrs Juv.	E: a: o b: 23 c: 256 d: 2 e: 2 f: 2 g: 2 h: 2a j: 34 k: 1 l: 1 m: 1 n: 1 o: a 268a-bde p: 1ad q: 2 r: 3lvpr3 s: 1 t: 1 u: 35ub v: 35	F: a: o b: 4a c: 567 d: 1 e: 3 f: 0 g: 1 o G: a: 3 b: 2 c: 2-3 d: 1a e: 3 f: 8 J: – K: a0-1
A: a: 5 b: 24EtPaSqe c: 3 d: 3 e: X0000000+00000000 00000000-0000000K f: 0-2 g: 1-2 h: 0-1 ka: 12+3- kb: 1234+ kc: 12+3- kd: 0 ke: 0 l: 1 m: 2-3	B: a: – b: 4(-3) c: – d: 2-3 e: 1-2 f: 2 C: a: – b: 436 c: 12 d: 1-23 e: 1 f: 0-1 g: 242ad h: 1 j: 2 H: a: 5 b: 1 c: 3 d: 3 e: f: ♂ g: ♂13	D: a: 24Br8 b: 2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1-2 k: 3 l: 1 m: 2 Sex: ♂ No. 104 Age (40 – 50) yrs Mat.	E: a: – b: 153 c: 56 d: 2 e: 3 f: 2 g: 2 h: 3a-b j: 2425 k: 3 l: 3 m: 1 n: 2 o: a 2-35-68bde p: 1a2d q: 3 r: 3 1a s: 2 t: 1 u: 15ub v: 125	F: a: – b: 142a c: 2357 d: 2 e: 3 f: 0 g: 0 G: a: 2-3 b: 2-3 c: 2 d: 2a e: 2 f: 2 J: - K: a0, cd+(e), c6
A: a: 14 b: 24EtMa c: 1-2 d: 3 e: ?IIIXXXX+XXXIIIX? ?IIIIIII-IIIIIII? f: – g: – h: – ka: 125- kb: 123-4+ kc: 123- kd: Co1 ke: 0 l: 1 m: 2	B: a: – b: 2 c: – d: 1-2 e: 2 f: 1 C: a: – b: 236 c: 246 d: 13 e: 1 f: 0-1 g: 15bd h: 2 j: 2 H: a: 14 b: 2 c: 1 d: 1 e: 1 f: ♂ g: ♂(24)	D: a: 14BrLa8 b: 1-2 c: 1-2 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 3 l: 1 m: 1 Sex: ♂ (?) No. 105 Age (> 60) yrs Sen.	E: a: - b: 45 c: 615 d: 2 e: 3 f: 2 g: 1-2 h: 3h j: 56 k: 1 l: 3 m: 1 n: 3 o: 1348bdl p: 3ad q: 1 r: 1ka s: 2 t: 3 u: 15ub v: 24	F: a: – b: 4a c: (167) d: – e: (3) f: 0 g: – G: a: 1 b: 1-2 c: 2 d: 2a e: – f: 5 J: – K: a0-1
A: a: 147 b: 24Na c: 3 d: 3 e: 00XIX000+000XXXX0 00000000-00000000 f: 2-3 g: 1-2 h: 0-1 ka: 12-34 kb: 123-4+ kc: 12+3- kd: 0 ke: 0 l: 2-3 m: 3	B: a: – b: 4(-3) c: – d: 1-2 e: 1-2 f: 2 C: a: – b: 136 c: 12 d: 15 e: 1 f: 1-2 g: 4ac h: 2 j: 3 H: a: 147 b: 2 c: 2-3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 14BrLa7 b: 2-3 c: 2-3 d: 125 e: 1 f: 2 g: 2 h: 2 j: 2 k: 12 l: 2 m: 1 Sex: ♂ No. 109 a Age (40 – 50) yrs Mat.	E: a: - b: 23 c: 156 d: 2 e: 3 f: 2-3 g: 2 h: 1-2b j: 34 k: 2 l: 2 m: 1 n: 1 o: 1368bde p: 1ad q: 2-3 r: 3lvpr1 s: 1 t: 1 u: 1(v?) v: 25	F: a: o b: 42a c: 567 d: 1 e: 3 f: 0 g: 1 G: a: 3 b: 3 c: 2 d: 2a e: 3 f: 3 J: 1(3)- K: a4, c6

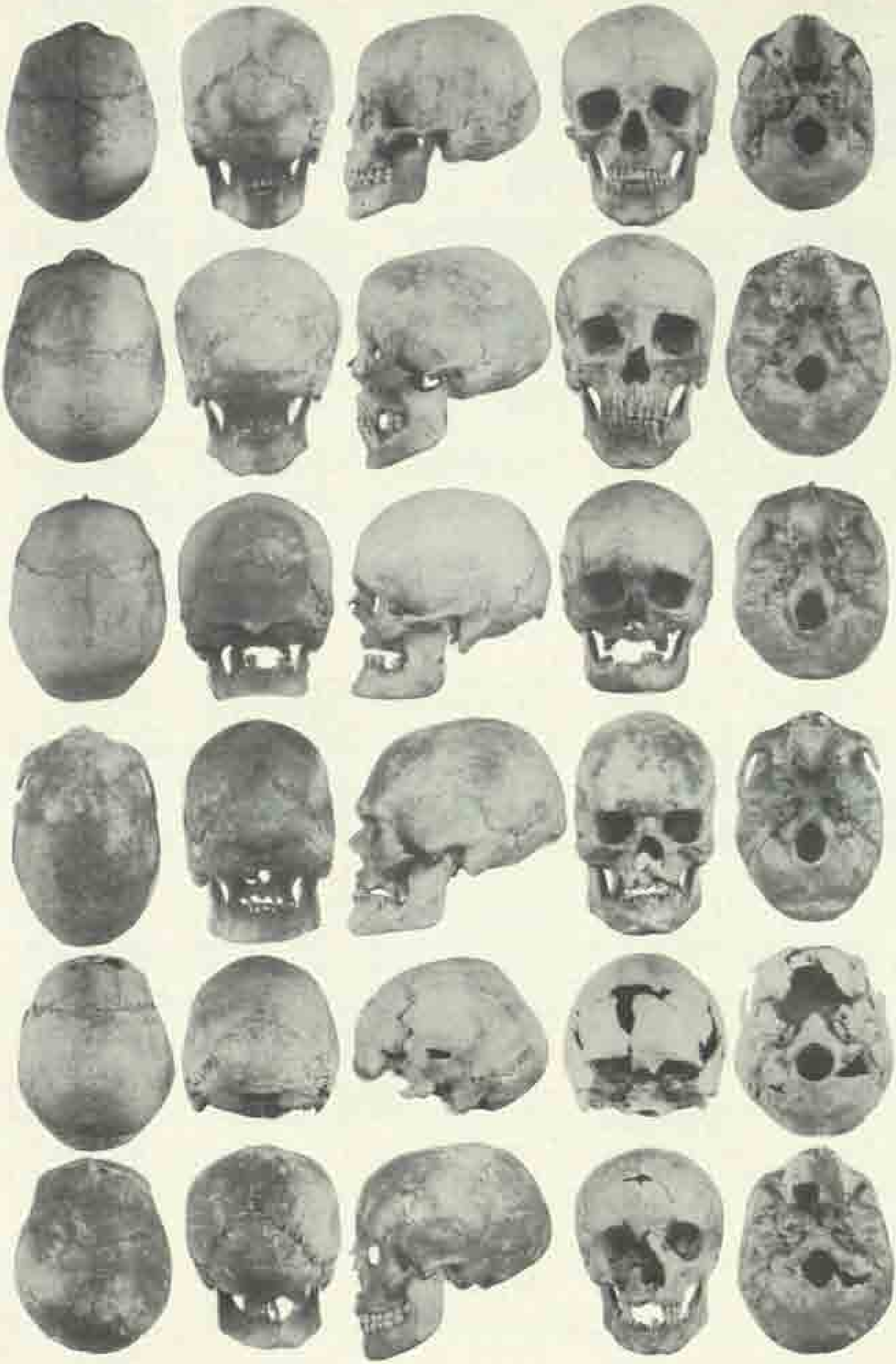


A: a: 125 b: 24Mx c: 3 d: 3 e: 00X00XX0+00000A00 / 00000000-00000000 f: 2-3 g: 0-2 h: 0-1 ka: 12-3+ kb: 1234+ kc: 1+23- kd: La1 ke: M l: 2-3 m: 3	B: a: - b: 4(-2) c: - d: 2 e: 1-2 f: 1 C: a: - b: 146 c: 2 d: 1-23 e: 1 f: 3 g: 4ac h: 1 j: 2 H: a: 125 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 268 b: 3 c: 3 d: 125 e: 1 f: 1-2 g: 2 h: 0 j: 1 k: 12 l: 1 m: 1 Sex: ♂ No. 111 Age (40 - 50) yrs Mat.	E: a: o b: 153 c: 56 d: 1 e: 3 f: 3 g: 2 h: 2a j: 45 k: 2 l: 3 m: 3 n: 3 o: 12-358bde p: 2a q: 3 r: 1bspr s: 2 t: (3) u: 1b v: 124	F: a: - b: 32a c: 2348 d: 2 e: 1 f: 1-2 g: 1 G: a: 3 b: 3 c: 3 d: 2a e: 1 f: 2 J: 13 K: a3+4, c(d+e?) e6
A: a: 1247 b: 28Mxad c: 3 d: 3 e: ------(+)------ / --00000-00000-- f: (1-2) g: 2-3 h: 0-1 ka: 123- kb: 1-234+ kc: 123- kd: Sa4 ke: 0 l: 3 m: 3	B: a: - b: 4(-2) c: - d: 1 e: 2 f: 2 C: a: - b: 46 c: 356 d: 23 e: 1 f: 3 g: 4ac h: 1 j: 1 H: a: 1247 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 29 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 0 j: 1 k: 13 l: 1 m: 1 Sex: ♂ No. 115a Age (50 - 60) yrs Mat.	E: a: - b: 1315 c: 56 d: 2 e: 3 f: 3 g: 2 h: 2a j: 245 k: 1-2 l: 3 m: 3 n: 2 o: 135-68bde p: 1a2d q: 2-3 r: 1ba s: (1-2) t: 3 u: 25ub v: 135	F: a: - b: 14e c: (57) d: - e: (3) f: 1 g: - G: a: 2 b: 2-3 c: 3 d: 2a e: 1 f: 4-5 J: 1 K: a0
A: a: 45 b: 24ZydMxd c: 2-3 d: 3 e: 0XA00000+X0000A00 / 00000000-00000000 f: 0-3 g: 1-2 h: 0-1 ka: 123+ kb: 1234- kc: 123+ kd: 0 ke: 0 l: 1 m: 2	B: a: - b: 4 c: - d: 1-2 e: 1-2 f: 1 C: a: - b: 236 c: 246 d: 346 e: 1 f: 1 g: 14ac h: 2 j: 1 H: a: 45 b: 2 c: 2-3 d: 2-3 e: 3 f: ♂ g: ♂13	D: a: 24BrLa7 b: 1-2 c: 1-2 d: 125 e: 1 f: 3 g: 1 h: 1 j: 1-2 k: 13 l: 1 m: 1 Sex: ♂ No. 116a Age (30 - 35) yrs Ad.	E: a: - b: 153 c: 56 d: 2 e: 3 f: 2 g: 1 h: 2b j: 2425 k: 1-2 l: 2 m: 2 n: 2 o: 1358bde p: 2a q: 2 r: 1ba s: 2 t: 3 u: 1b v: 2-	F: a: - b: 4a c: 232528 d: 2 e: 2 f: 0 g: 1 G: a: 3 b: 2-3 c: 2 d: 1a e: 2 f: 4 J: - K: a0
A: a: 1265 b: 4PaZya c: 2 d: 3 e: 00000000+00000000 / 00000000-00000000 f: 1-2 g: 0-1 h: 0 ka: 123+ kb: 1234- kc: 123+ kd: La1 ke: 0 l: 1-2 m: 2	B: a: - b: 4 c: - d: 1-2 e: 1 f: 1 C: a: - b: 1315 c: 246 d: 13 e: 1 f: 3 g: 14ac h: 3 j: 2 H: a: 1265 b: 2 c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24La8 b: 2 c: 2 d: 25 e: 1 f: 1-2 g: 2 h: 1-2 j: 1-2 k: 12 l: 1 m: 1 Sex: ♂ No. 117 Age (30 - 35) yrs Ad.	E: a: - b: 153 c: 136 d: 1 e: 3 f: 1-2 g: 2 h: 2a j: 34 k: 1-2 l: 3 m: 2 n: 1 o: o35-68bdf p: 1a2d q: 3 r: 2ba s: 2 t: 2 u: 34b v: 38	F: a: - b: 14a c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 3 b: 3 c: 2-3 d: 2a e: 1 f: 5 J: 1 K: a0-1, d1-2
A: a: 257 b: 24Zya c: 3 d: 3 e: 00000000+01100000 / 1X100Y01-00Y00X00 f: 0-1 g: 3 h: 3 ka: 12-3+ kb: 123-4+ kc: 1+23- kd: La3 ke: 0 l: 2 m: 2-3	B: a: - b: 4 c: 169d d: 2 e: 1-2 f: 3 C: a: - b: 46 c: 12 d: 245 e: 1 f: 3 g: 13ac h: 1 j: 1 H: a: 257 b: 2 c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24BrLa56 b: 1-2 c: 1-2 d: 125 e: 1 f: 0 g: 3 h: 1-2 j: 1 k: 3 l: 1 m: 2(-1) Sex: ♂ No. 120 Age (30 - 35) yrs Ad.	E: a: - b: 45 c: 456 d: 1 e: 2 f: 2 g: 2 h: 2a j: 56 k: 1 l: 2 m: 3 n: 3 o: 1358bde p: 2ad q: 1 r: 2ba s: 3 t: 2 u: 25uv v: 247	F: a: o b: 31i c: 2326 d: 2 e: 3 f: 0 g: 1 G: a: 3 b: 3 c: 2 d: 2b e: 1 f: 3 J: K: 3, d2, e6
A: a: 1245 b: 24Zyd c: 3 d: 3 e: 000IX0XX+0XX01000 / 00000000-00000000 f: 2-3 g: 1-2 h: 0-2 ka: 12-3+ kb: 12-34+- kc: 123- kd: La2 ke: 0 l: 2 m: 3	B: a: - b: 4(-2) c: - d: 2 e: 2-3 f: 2 C: a: - b: 236 c: 246 d: 145 e: 1 f: 2-3 g: 13bd h: 3 j: 2 H: a: 1245 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 24BrLa7 b: 3 c: 3 d: 25 e: 1 f: 1 g: 1 h: 0 j: 2 k: 12 l: 2 m: 2 Sex: ♂ No. 121 Age (40 - 50) yrs Mat.	E: a: - b: 23 c: 56 d: 1 e: 3 f: 2-3 g: 1 h: 2b j: 34 k: 2 l: 2 m: 1 n: 1 o: 135-68bde p: 2a q: 1-2 r: 21 s: (1-2) t: 2 u: 2+ v: 124	F: a: o b: 42a c: (568) d: - e: 1 f: 1 g: 0 G: a: 2-3 b: 2-3 c: 2 d: 2b e: 2 f: 3 J: 13 K: a0

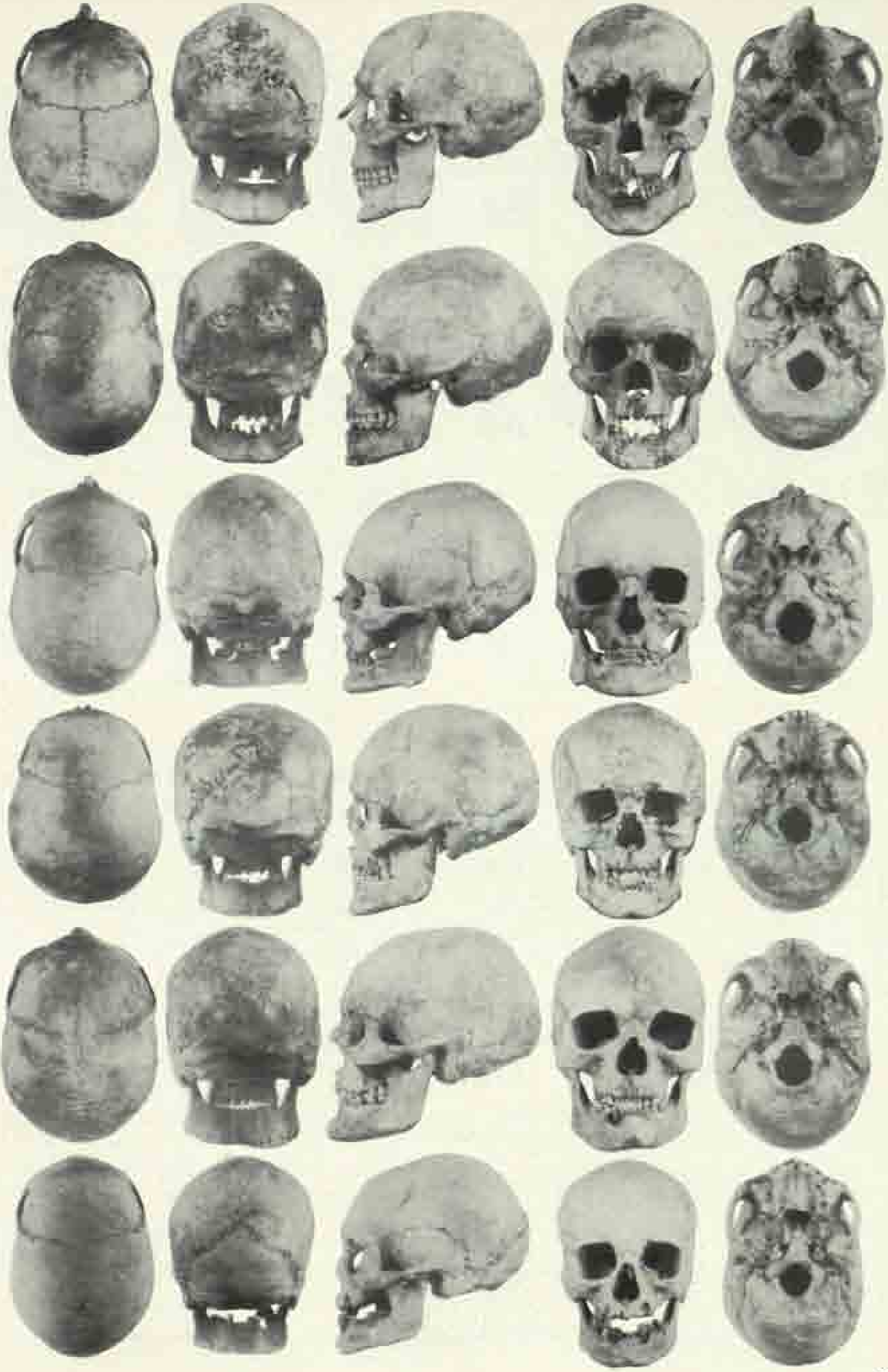


C 33

A a: 124 b: 1 c: 2 d: 3 e: 0X0R0000+00000000 / 00000000-00000000 f: 1-2 g: 1-2 h: 1-2 ka: 123- kb: 1234- kc: 123- kd: La23 ke: M l: 1-2 m: 2	B: a: - b: 4 c: - d: 2 e: 2-3 f: 3 C: a: - b: 146 c: 12 d: 245 e: 1 f: 1 g: 24ac h: 1 j: 1 H: a: 124 b: 1 c: 1 d: 2 e: 2 f: ♂ g: ♂13	D: a: 14BrLa67 b: 1 c: 1 d: 35 e: 1 f: 3 g: 1 h: 3 j: 1 k: 3 l: 2 m: 2 Sex: ♂ No. 122 122 Age (20 - 25) yrs Ad.	E: a: - b: 154 c: 256 d: 1 e: 2 f: 1-2 g: 2 h: 3b j: 2425 k: 2-3 l: 2 m: 2 n: 2 o: 1358bde p: 2ad q: 2-3 r: 2ha s: 2 t: 2 u: 1-2 v: 124	F: a: 0 b: 32a c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 1-2 b: 1-2 c: 13 d: 2a e: 2 f: 4 J: 25 K: a0, d1-2
A a: 125 b: 24ZyadMa5 c: 2-3 d: 3 e: 70X00000+00000XX0 / 00X00000-00000X00 f: 2-3 g: 1-2 h: 0-1 ka: 12-34 kb: 1234+ kc: 123- kd: Co 3a ke: M l: 3 m: 3	B: a: - b: 4 c: - d: 2-3 e: 2-3 f: 2 C: a: - b: 4-23 c: 246 d: 145 e: 1 f: 1-2 g: 4bc h: 2 j: 1 H: a: 125 b: 23Ula c: 2-3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24BrLa67 b: 1 c: 1 d: 35 e: 1 f: 0 g: 3 h: 1 j: 1 k: 24ad l: 2 m: 2 Sex: ♂ No. 131 131 Age (35 - 40) yrs Ad.	E: a: - b: 135 c: 36 d: 1 e: 5 f: 1 g: 1 h: 3a j: (1514) k: - l: - m: 3 n: - o: 1356bde p: 2ad q: 2-3 r: 2lapr1 s: 1 t: 2 u: 15av v: 24	F: a: - b: 141i c: (7) d: - e: 5 f: 1 g: 1 G: a: 2 b: 2 c: 2 d: 2-3b e: - f: 4 J: (1)2 K: a0, d2(1)
A a: 145 b: 2 c: 3 d: 3 e: 0XIIIIII+IIIIIII0 / ?0II00XII-II000II? f: 2-3 g: 3 h: 1 ka: 12-34 kb: 1-234+ kc: 1+23+ kd: La3 ke: 0 l: 2 m: 2-3	B: a: 0 b: 4 c: 19d d: 2 e: 1 f: 5 C: a: - b: 46 c: 256 d: 1-246 e: 2 f: 34 g: 4ac h: 2 j: 2 H: a: 145 b: 4PeSa6Ep c: 3 d: 3 e: 1 f: ♂ g: ♂13	D: a: 14La67 b: 3 c: 3 d: 25 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 2 m: 2 Sex: ♂ No. 134 134 Age (40 - 50) yrs Mat.	E: a: - b: 23 c: 36 d: 1 e: 1 f: 2 g: 1 h: 2a j: 34 k: 3 l: 3 m: 1 n: 1 o: 1258bde p: 2ad q: 2 r: 1ha s: 1-2 t: 3 u: 2-35ab v: 35	F: a: - b: 32a c: 7(6) d: - e: (3) f: 0 g: (1) G: a: 1-2 b: 2 c: 2 d: 1-2a e: 1 f: 1 J: 1
A a: 1256 b: 242ya c: 3 d: 2 e: 00IXX0I0+IIIXII00 / ?0I00000-00R0000? f: 0-3 g: 1-3 h: 2 ka: 12-3+ kb: 123-4+ kc: 12+3- kd: La2 ke: 0 l: 2 m: 3	B: a: - b: 4 c: 19d d: 0-1 e: 1-2 f: 1 C: a: - b: 35 c: 12 d: 146 e: 1 f: 2 g: 4ac h: 3 j: 3 H: a: 1256 b: 2 c: 2-3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 14BrLa68 b: 3 c: 1 d: 14 e: 1 f: 2 g: 2 h: (1) j: 2 k: 1 l: 1 m: 1 Sex: ♂ No. 135 135 Age (35 - 40) yrs Ad.	E: a: - b: 23 c: 2526 d: 1 e: 2 f: 3 g: 0 h: 1b j: 34 k: 5 l: (1) m: 1 n: (1) o: 1268ae p: 1ad q: 2-3 r: 2hvpr2 s: 1-2 t: 2 u: 15av v: 125	F: a: 0 b: 31a c: 567 d: 1 e: 3 f: 2 g: 1a G: a: 2 b: 3 c: 2 d: 2a e: 1 f: 2 J: 13- K: a1-2 c6
A a: 145 b: 6Fe76 c: 3 d: 3 e: 000000XX+XX000000 / 00000X00-XXX00000 f: 1-3 g: 1-3 h: 1-2 ka: 1234 kb: 1234+ kc: 12+3- kd: Br1La1 ke: 0 l: 2 m: 3	B: a: - b: 4 c: - d: 0-1 e: 2 f: 3 C: a: - b: 2526 c: 12 d: 246 e: 1 f: 2 g: 4bd h: 2 j: 2 H: a: 145 b: 6SaPe c: 3 d: 3 e: 1 f: ♂ g: ♂13	D: a: 24La689 b: 3 c: 3 d: 235 e: 2 f: - g: - h: - j: - k: 3 l: 2 m: 2 Sex: ♂ No. 136a 136a Age (40 - 50) yrs Mat.	E: a: - b: - c: (36) d: - e: - f: 3 g: 0-1 h: 2b j: - k: - l: - m: - n: - o: - p: - q: 2-3 r: - s: - t: - u: - v: -	F: a: - b: 4a c: 2357 d: 2 e: - f: - g: 1 G: a: 3 b: 3 c: 2 d: 3a e: 1 f: 4-5 J:
A a: 25 b: 68(Fe) c: 1 d: (2) e: 000000XX+0000000 / 0X0000XX-0X00000 f: 0 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 2 m: 1-2	B: a: - b: 4 c: - d: 1 e: 3 f: 3 C: a: - b: 46 c: 346 d: 23 e: 1 f: 1 g: 3bc h: 1 j: 1 H: a: 25 b: 2 c: 1-2 d: 2-3 e: 1-2 f: ? g: ♂13	D: a: 14BrLa567 b: 1 c: 1 d: 25 e: 1 f: 1-2 g: 2 h: 2-3 j: 1 k: 34ad l: 1 m: 1 Sex: ♂ No. 137 137 Age (18 - 20) yrs Juv.	E: a: - b: 45 c: 236 d: 2 e: 2 f: 1 g: 1 h: 3c j: 256 k: 1-2 l: - m: 2 n: - o: 1248bde p: 3a q: 2 r: 1hapr1 s: (2) t: 3 u: 1 v: -	F: a: - b: 42a c: 2325 d: - e: - f: - g: 1 G: a: 1-2 b: 1-2 c: 3 d: 2a e: 1 f: 4 J: - K: a3+3, be

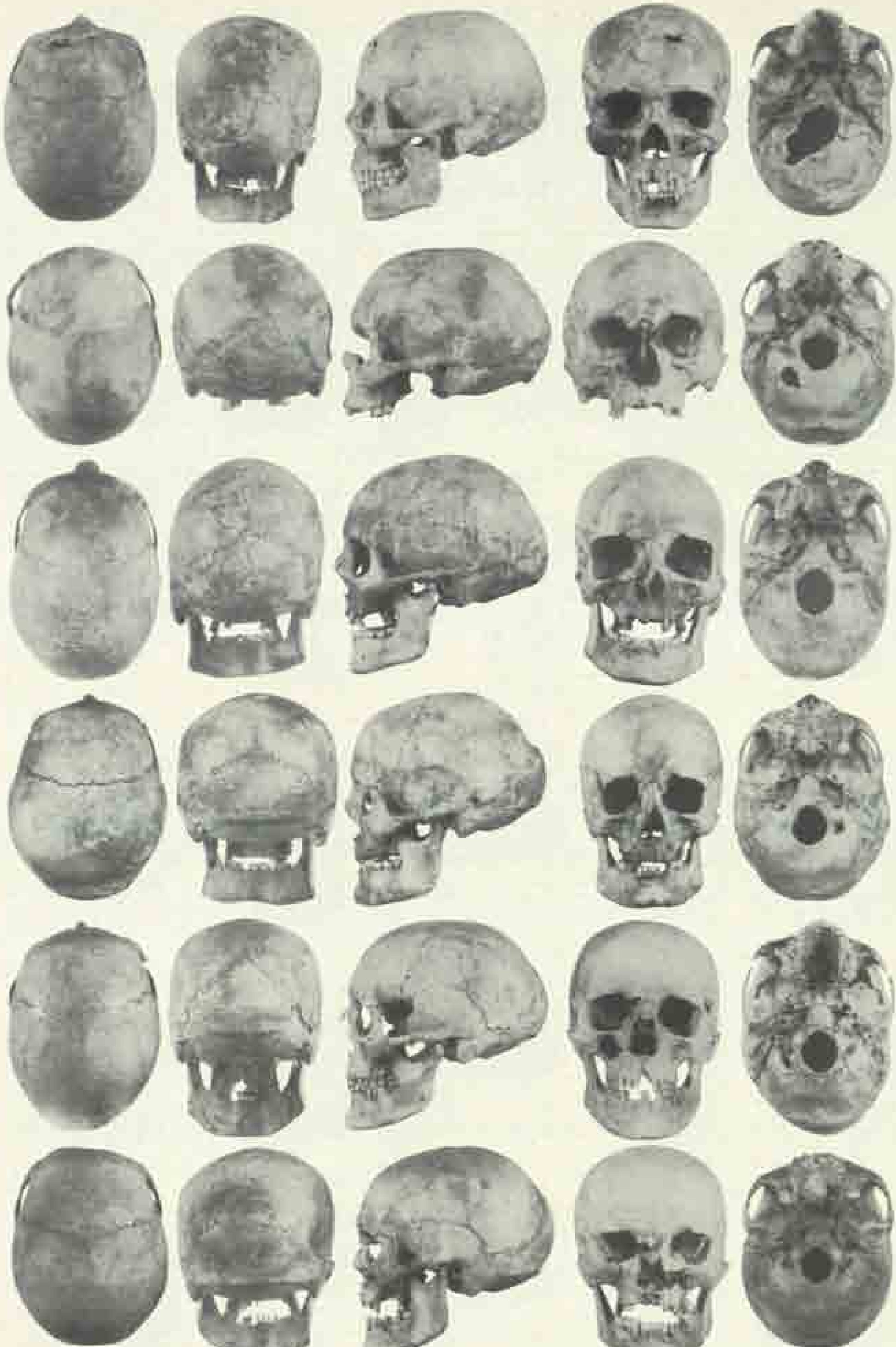


A: a: 1345 b: 4EtSqudi c: 3 d: 3 e: 00000000+X0000000 / 00000000-X0000000 f: 1-2 g: 1-2 h: 0-1 ka: 12-3+ kb: 1-2+34- kc: 123- kd: La1 ke: 0 l: 1 m: 3	B: a: - b: 4 c: - d: 1 e: 2 f: 2 C: a: - b: 46 c: 356 d: 246 e: 1 f: 2-3 g: 14ac h: 1 j: 1 H: a: 1425 b: 2 c: 3 d: 3 e: 2-3 f: ♂ g: ♂13	D: a: 24BrLa67 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 3 l: 1 m: 1 Sex: ♂ No. 138 **138** Age (30 - 35) yrs Ad.	E: a: - b: 45 c: 136 d: 1(-2) e: 1 f: 3 g: 0-1 h: 2b j: 56 k: 1 l: 3 m: 3 n: 1 o: 12358bde p: 2a q: 3 r: 1ha s: - t: 3 u: 1-25ub v: 125	F: a: o b: 4e c: (314) d: - e: - f: - g: 1 G: a: 3 b: 3 c: 2 d: 2a e: 1 f: 3 J: 123 K: a3+4, be, e6
A: a: 245 b: 1 c: 3 d: 3 e: 000000XA+AX000000 / 0XX00X0 - XX0X000 f: 1-2 g: 1 h: 0 ka: 123- kb: 1234- kc: 123- kd: La3 ke: 0 l: 2-3 m: 2-3	B: a: - b: 4 c: - d: 2 e: 1 f: 2 C: a: - b: 236 c: 356 d: 246 e: 1 f: 3 g: 13bc h: 2 j: 2 H: a: 245 b: 2 c: 2-3 d: 2 e: 3 f: ♂ g: ♂13	D: a: 24La6 b: 3 c: 3 d: 25 e: 1 f: 1-2 g: 2 h: 1 j: 1-2 k: 34ad l: 2 m: 2 Sex: ♂ No. 139 **139** Age (30 - 35) yrs Ad.	E: a: - b: 1313 c: 36 d: 1 e: 1 f: 2-3 g: 2 h: 1-2c j: 34 k: 2-3 l: 2 m: 2 n: 1 o: 12368bde p: 2ad q: 2 r: 2hvpr3 s: 1 t: 2 u: 25ub v: 125	F: a: - b: 4a c: 1617 d: 1 e: 3 f: 1 g: 1 G: a: 2 b: 2 c: 2 d: 2a e: 2 f: 3 J: - K: a2+3, d1-2?
A: a: 145 b: 1 c: 3 d: 3 e: 11111XII+11000III / 0II00000-000III00 f: 2-3 g: 2-3 h: 1-2 ka: 1+2-3+ kb: 1234+ kc: 123+ kd: 0 ke: 0 l: 3 m: 3	B: a: - b: 4 c: - d: 1 e: 1-2 f: 1 C: a: - b: 135 c: 256 d: 246 e: 1 f: 3 g: 14bd h: 3 j: 3 H: a: 145 b: 4PeSa c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: (4La) b: 3 c: 3 d: 234 e: 1 f: 0 g: 3 h: 0 j: 2 k: 13 l: 2 m: 1 Sex: ♂ No. 140 **140** Age (40 - 50) yrs Mat.	E: a: - b: 23 c: 136 d: 2 e: 2 f: 2-3 g: 1 h: 2b j: 34 k: 2 l: 2 m: 1 n: 1 o: 12368bde p: 1ad q: 1-2 r: 2ha s: (2) t: 2 u: 1-25ub v: 135	F: a: - b: 14a c: (567) d: - e: (3) f: 0 g: U G: a: 3 b: 3 c: 2 d: 2a e: 2 f: 1 J: 13- K: a0, e6?
A: a: 125 b: 2Xye c: 3 d: 3 e: 00000X00+00000000 / 10000X00-0000X000 f: 0-3 g: 0-2 h: 0-1 ka: 123-+ kb: 12-3+4+ kc: 123- kd: La1 ke: 0 l: 2-3 m: 3	B: a: - b: 3(-4) c: - d: 2 e: 3 f: 5 C: a: - b: 46 c: 346 d: 146 e: 1 f: 1-2 g: 4ad h: 1 j: 1 H: a: 125 b: 2 c: 2-3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 24La579 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 1 j: 1 k: 3 l: 2 m: 2 Sex: ♂ No. 142 **142** Age (30 - 35) yrs Ad.	E: a: - b: 23 c: 36 d: 1 e: 1 f: 2 g: 2 h: 2a j: 2425 k: 2 l: 3 m: 3 n: 2 o: 1368bde p: 1ad q: 1-2 r: 3(vpr) s: 2 t: 2 u: 1b v: 124	F: a: o b: 142ao c: 2357 d: 2 e: 3 f: 1 g: U G: a: 1-2 b: 2 c: 2 d: 2b e: 1 f: 3 J: 34 K: a2+3, e6
A: a: 125 b: 1 c: 3 d: 3 e: 00000000+0000KK00 / 0000KK00-00000000 f: 1-3 g: 0-1 h: 0 ka: 12-3+ kb: 12-34+ kc: 123+ kd: La3 ke: M l: 2 m: 3	B: a: - b: 4 c: - d: 0-1 e: 2 f: 2 C: a: - b: 613 c: 346 d: 13 e: 1 f: 3 g: 4bd h: 2 j: 1 H: a: 125 b: 24Fea c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 14La56 b: 2 c: 2 d: 1216 e: 1 f: 0 g: 3 h: 1 j: 1 k: 12 l: 2 m: 1 Sex: ♂ No. 146 **146** Age (40 - 50) yrs Mat.	E: a: o b: 23 c: 36 d: 2 e: 3 f: 2 g: 1 h: 2-3a j: 34 k: 2 l: 3 m: 3 n: 3 o: 12368bde p: 1ad q: 3 r: 3(vpr) s: 1 t: 1 u: 3b v: 34	F: a: - b: 14a c: 2357 d: 2 e: 3 f: 0-1 g: 1 G: a: 3 b: 3 c: 2-3 d: 2b e: 1 f: 3 J: 1 K: a2-3, b(e) d(2))?, e6
A: a: 147 b: 2 c: 2 d: 2 e: 0XIXXXIX+IIXXIIIX / 0IX000XX-XX0X0100 f: 3 g: 1-3 h: 1-2 ka: 12-3+ kb: 1234+ kc: 1-23+ kd: 0 ke: 0 l: 2-3 m: 2	B: a: o b: 4(-3) c: 694 d: 1 e: 2-3 f: 1 C: a: o b: 2326 c: 346 d: 146 e: 1 f: 2-3 g: 24bd h: 2 j: 2 H: a: 147 b: 45aPe c: 2 d: 2 e: 1-2 f: ♂ g: ♂13	D: a: 24BrLa79 b: 3 c: 3 d: 134 e: 1 f: 1-2 g: 2 h: 0 j: 2 k: 3 l: 1 m: 1 Sex: ♂ No. 147a **147a** Age (40 - 50) yrs Mat.	E: a: (o) b: 23 c: 2526 d: 2 e: 2 f: 2 g: 1 h: 2a j: 34 k: 1-2 l: (1) m: (1) n: 1 o: 1358bde p: 2ad q: 1 r: 2 1a s: 1 t: 2 u: 2b v: 125	F: a: o b: 14a c: (25257) d: - e: (3) f: 1 g: (U) G: a: 2 b: 2 c: 2 d: 2a e: - f: 3 J: 13 K: a0 asym.



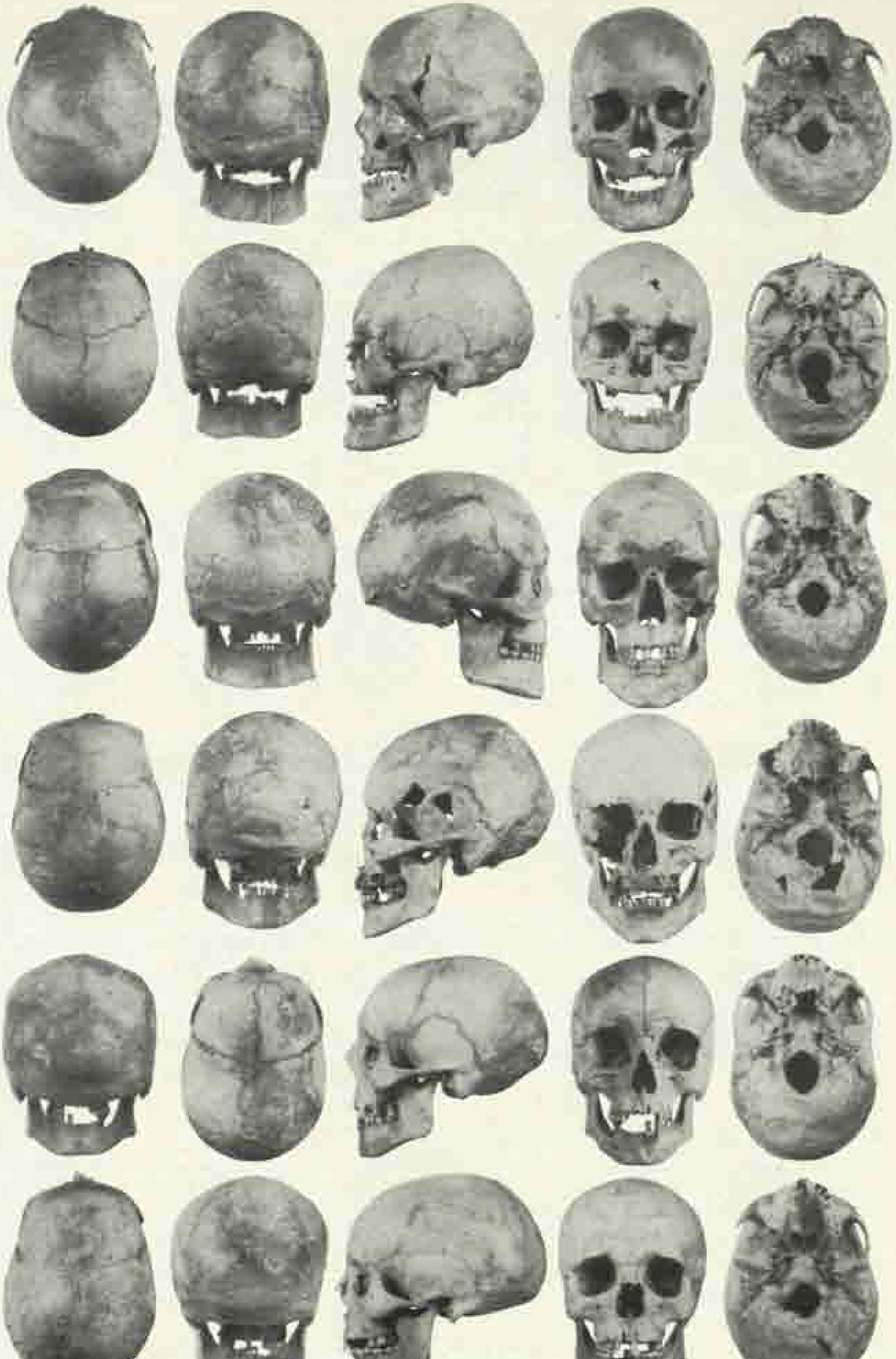
C 37

A a: 56 b: 23Fr4BaZyd c: 1-2 d: 2 e: 1000000X+00000000 / 70000000.00000007 f: 0-2 g: 0-1 h: 2 ka: 123- kb: 1234+ kc: 1234+ kd: La†*)**) ke: l: 3 m: 2 *) os. inc. **) in La large sut. bone	B: a: - b: 4 c: - d: (2) e: 2 f: 1 C: a: - b: 1315 c: 12 d: 145 e: 1 f: 1-2 g: 13bc h: 3 j: 2 H: a: 56 b: 2 c: 2 d: 2 e: 3 f: ♂ g: ♂13	D: a: 14BrLa5 b: 2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 13 l: 2 m: 1 Sex: ♂ No. 153 Age (35 - 40) yrs Ad.	E: a: o b: 1315 c: 56 d: 1 e: 3 f: 1-2 g: - h: 3b j: 156 k: 2-3 l: (3) m: 3 n: 3 o: 12-35-6bdf p: 1a2d q: 1 r: 2ba s: (1) t: 2 u: 15ub v: 2	F: a: - b: 4a c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 2 b: 2-3 c: 1+3 d: 2b e: 1 f: 1 J: 2 K: a0-1, d1-2
A a: 1245 b: 4Et(Na) c: 3 d: 3 e: 000000XX+XX0XX000 / 00000T00-00R00000 f: 0-2 g: 0-1 h: 0-1 ka: 12+3- kb: 1234+ kc: 123- kd: 0 ke: 0 l: 2-3 m: 3	B: a: - b: 4 c: - d: 1-2 e: 1 f: 1 C: a: o b: 146 c: 256 d: 2(3)-46 e: 1 f: 3 g: 14bc h: 2 j: 1 H: a: 1245 b: 2 c: 2 d: 2 e: 3 f: ♂ g: ♂13	D: a: (2)4La56 b: 2 c: 2 d: 25 e: 1 f: 2 g: 2 h: 1 j: 1 k: 3 l: 1 m: 1 Sex: ♂ No. 156 Age (35 - 40) yrs Ad.	E: a: - b: 35 c: 256 d: 2 e: 2 f: 2 g: 2 h: 2a j: 145 k: 2-3 l: 3 m: 3 n: 3 o: 1248a p: - q: - r: a s: (1) t: - u: - v: -	F: a: - b: 4a c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 2-3 b: 3 c: 2 d: 2a e: (1) f: 3 J: 13 K: a4
A a: 145-75 b: 24Sqd5 c: 3 d: 3 e: 00)X0XXX+XX001111(0 / 000XXXII-IXXXX000 f: 2-3 g: 2-3 h: 1-3 ka: 12+3(-) kb: 1234+ kc: 123- kd: La12*) ke: 0 l: 2 m: 3 *) os inc.	B: a: - b: 4 c: - d: 4 e: 1-2 f: 1 C: a: o b: 235 c: 346 d: 146 e: 1 f: 2 g: 4ad h: 3 j: 3 H: a: 145 b: 6Ep7Fed c: 3 d: 7 e: 2-3 f: ♂ g: ♂13	D: a: 24La89 b: 2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♂ No. 157 a Age (40 - 50) yrs Mat.	E: a: - b: 35 c: 56 d: 2 e: 3 f: 2 g: 2 h: 3a j: 245 k: 2 l: 3 m: 3 n: 2 o: 1368bdf p: 1ad q: 3 r: 2ba s: 2 t: 2 u: 3b v: 35	F: a: o b: 3a c: (7) d: - e: (3) f: 0 g: 1 G: a: 3 b: 3 c: 3 d: 3a e: (1) f: 5 J: K: a0, e67
A a: 125 b: 23ZySqPad c: 3 d: 3 e: XX0X00XX+X00IIIX0 / 0000X000-00X00000 f: 2-3 g: 1 h: 0 ka: 123- kb: 1234+ kc: 123- kd: La12 ke: 0 l: 2-3 m: 2-3	B: a: - b: 4-2 c: - d: 3 e: 2 f: 2 C: a: - b: 46 c: 12 d: 1-23 e: f: 2-3 g: 18bc h: 1 j: 1 H: a: 125 b: 467 c: (1-2) d: 2-3 e: 1 f: ♂ g: -	D: a: 169 b: 2-3 c: 2-3 d: 25 e: 1 f: 0 g: 3 h: 0-1 j: 1 k: 12 l: 1 m: 1 Sex: ♂ No. 157 b Age (40 - 50) yrs Mat.	E: a: - b: 1315 c: 256 d: 2 e: 2 f: 2 g: 3 h: 2b j: 56 k: 2-3 l: 3 m: 3 n: 3 o: 1358bdf p: 2ad q: 1-2 r: 1hapr1 s: 2 t: 3 u: 1b v: 25	F: a: o b: 232a c: (2357) d: (2) e: 3 f: g: G: a: 2 b: 2 c: 3 d: 2a e: - f: 2-3 J: 2 K: a0
A a: 147 b: 4EtMaSqe c: 3 d: 3 e: 00000000+X0000000 / 00000XX0-0X000000 f: 1-3 g: 1-2 h: 0-3 ka: 123- kb: (1234+) kc: 125- kd: La2 ke: 0 l: 2 m: 2-3	B: a: o b: 4-2 c: 69 d: 3 e: 1-2 f: 1 C: a: o b: 46 c: 356 d: 146 e: 1 f: 2 g: 14bc h: 1 j: 1 H: a: 147 b: 4EpPe c: 3 d: 3 e: 1-2 f: ♂ g: ♂13	D: a: 24La679 b: 3 c: 3 d: 125 e: 1 f: o g: 3 h: 0-1 j: 1-2 k: 3 l: 1 m: 1 Sex: ♂ No. 158 Age (35 - 40) yrs Ad.	E: a: - b: 23 c: 517 d: 2 e: 3 f: 2-3 g: 3 h: 1a j: 56 k: 2-3 l: 3 m: 2 n: (1) o: o55-68bdf p: 1a2d q: 2 r: 2ba s: (1) t: 2 u: 2b v: 135	F: a: o b: 4a c: (3)(5) d: - e: - f: 0 g: 1 G: a: 3 b: 2-3 c: 3 d: 3a e: 1 f: 5 J: 1 K: 1+3, ea
A a: 5 b: 34EtMa6 c: 3 d: 2 e: 0111000X+X0T0010 / T0000000-00T00X00 f: 0-3 g: 2-3 h: 0-1 ka: 123- kb: 1-234+ kc: 1+23- kd: La1 ke: 0 l: 3 m: 2-3	B: a: - b: 4 c: 2 d: 2 e: 2 f: 2 C: a: - b: 1316 c: 346 d: 245 e: 1 f: 2-3 g: 14bd h: 2 j: 1 H: a: 5 b: 2 c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 14BrLa579 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 0 j: 1-2 k: 15 l: 2 m: 1 Sex: ♂ No. 159 Age (40 - 50) yrs Mat.	E: a: o b: 23 c: 517 d: 2 e: 3 f: 3 g: 3 h: 1a j: 34 k: 2-3 l: 3 m: 2 n: (1) o: o3(5)-68bde p: (2a)1d q: 3 r: (1apr2) s: - t: - u: - v: 3+	F: a: - b: 3(1) c: (567) d: (3) e: - f: 2 g: 1 G: a: 2-3 b: 2-3 c: 2 d: 2a e: - f: 2-3 J: 123 K: a0+1



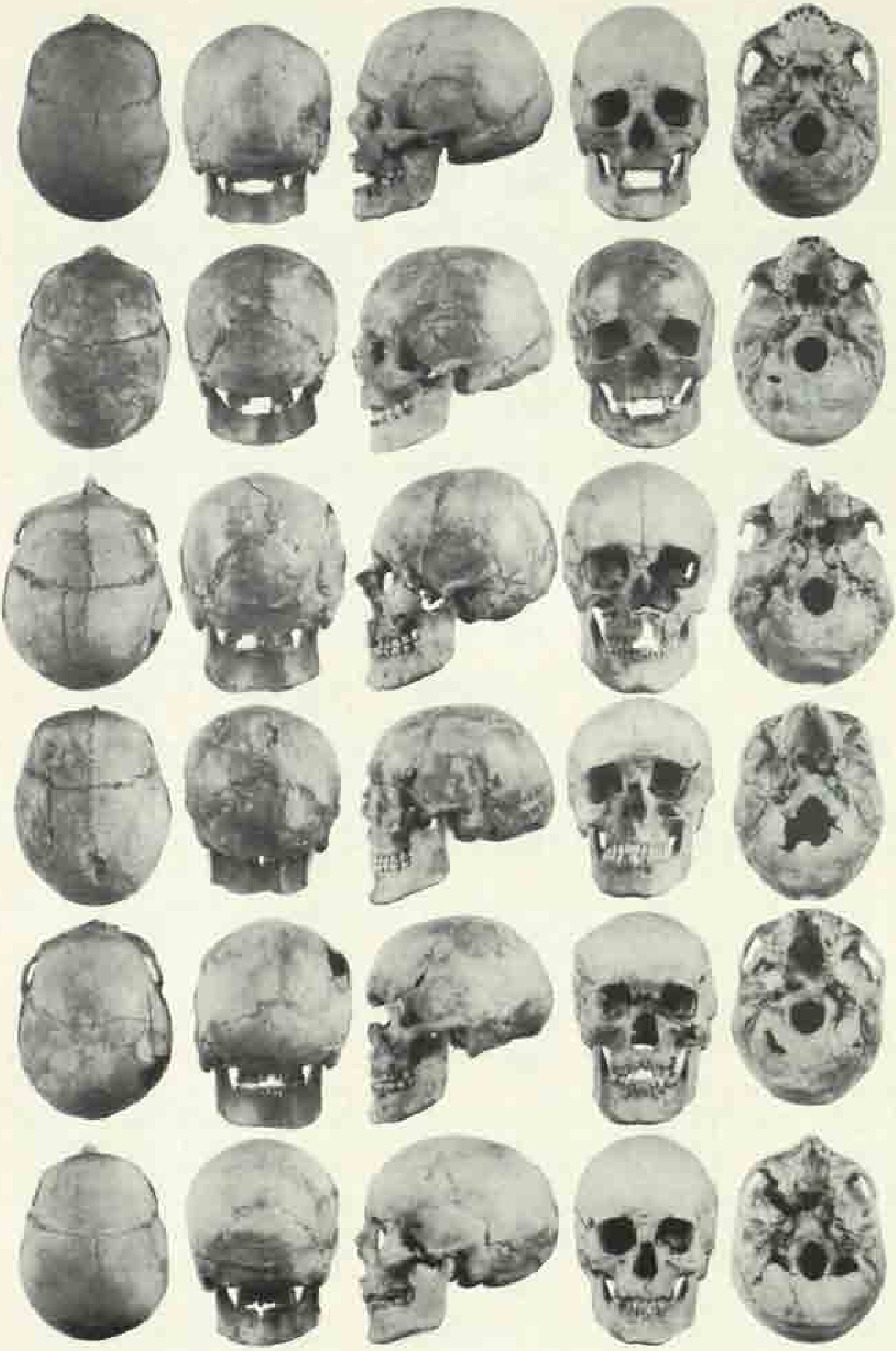
C 39

A: a:25 b:4EtZyadSqs c:2 d:2 A A e: 000X00XX+X00XX000 / 0000000-00000000 f:(2)-3 g:1-2 h:2-3 ka:1234 kb:1234+ kc:1243- kd:La ke:0 l:2-3 m:2-3	B: a:o b:4 c:89a d:1 e:1 f:2 C: a:o b:2326 c:12 d:246 e:1 f:3 g:4ad h:2 j:1(-2) H: a:25 b:2 c:2-3 d:2-3 e:1-2 f:♂ g:♂13	D: a:145689 b:2-3 c:2-3 d:25 e:1 f:0 g:3 h:0 j:1-2 k:12 l:2 m:2 Sex: ♂ No. 160 Age (50 - 60) yrs Mat.	E: a:- b:135 c:236 d:(1) e:2 f:2-3 g:1 h:2a j:- k:- l:- m:2 n:- o:2-34-58bdf p:2a3d q:2-3 r:1haprl s:3 t:3 u:- v:-	F: a:o b:4ll c:235(7) d:2 e:- f:0 g:U G: a:2-3 b:2-3 c:2-3 d:2a e:1 f:3-4 J:12 K: a1+2, e6
A: a:14215 b:4Fc6 c:3 d:2 e: X1111111+11111110 / 00X000X0-00000000 A f:2-3 g:1-2 h:0-1 ka:123+ kb:1-234+ kc:123- kd:La3 ke:0 l:2 m:2-3	B: a:- b:4(-2) c:- d:0-1 e:0-1 f:2 C: a:- b:236 c:1246 d:23 e:1 f:2-3 g:13bc h:2 j:2 H: a:142 b:2 c:2 d:3 e:1 f:♂ g:♂13	D: a:14Br578 b:3 c:3 d:142 e:1 f:0 g:3 h:0 j:2 k:12 l:2 m:2 Sex: ♂ No. 162 Age (40 - 50) yrs Mat.	E: a:- b:23 c:156 d:2 e:3 f:2-3 g:1 h:2a j:3a k:2-3 l:3 m:1 n:(1) o:1258bdf p:2ad q:2 r:2laprl s:3 t:2 u:2b v:35	F: a:- b:4ll c:(67) d:- e:(3) f:0 g:1 G: a:2-3 b:3 c:3 d:2-3a e:1 f:3 J:1 K: a1, b(a), e6
A: a:45 b:24Zya c:3 d:3 e: X00000X0+X0000000 / 00000000-00000000 f:0-2 g:0-1 h:0-1 ka:123- kb:12-34+ kc:12+3- kd:La2-3 ke:0 l:3 m:3	B: a:- b:4(-2) c:- d:0-1 e:1 f:1 C: a:- b:34 c:1 d:13 e:1 f:3 g:13bc h:3 j:3 H: a:45 b:2 c:2 d:2-3 e:3 f:♂ g:♂13	D: a:4Br5679 b:3 c:3 d:125 e:1 f:0 g:3 h:1 j:1-2 k:12 l:2 m:2 Sex: ♂ No. 164 Age (35 - 40) yrs Ad.	E: a:- b:45 c:56 d:2 e:3 f:3 g:1 h:3b j:2425 k:1-2 l:2 m:2 n:2 o:12-35-68bde p:1a2d q:2-3 r:2haprl s:- t:2 u:2b v:1357	F: a:- b:141l c:2357 d:2 e:3 f:0 g:1 G: a:3 b:3 c:2 d:3a e:1 f:2-3 J:1 K: a1+3, d1-2, e6
A: a:1257 b:4EtSqd(6) c:1 d:2 AAA A A e: 000X0000+0X000100 / 0010000-0000110T A f:2-3 g:2-3 h:1-3 ka:123+ kb:1234+ kc:12+3- kd:SaLa ke:0 l:2 m:1-2	B: a:- b:4(-2) c:- d:0-1 e:1-2 f:2 C: a:- b:2325 c:1246 d:23 e:1 f:1 g:13bc h:1 j:1-2 H: a:1257 b:2 c:3 d:2-3 e:1-2 f:♂ g:♂13	D: a:24BrLa679 b:2-3 c:2-3 d:125 e:1 f:3 g:1 h:3 j:1-2 k:3 l:3 m:1 Sex: ♂ No. 165 Age (40 - 50) yrs Mat.	E: a:- b:1315 c:56 d:2 e:3 f:2-3 g:0 h:2b j:(1415) k:(1-2) l:- m:2 n:- o:358bdf p:2a q:- r:1ha s:2 t:3 u:1v v:2	F: a:- b:4Za c:567 d:(1) e:3 f:0 g:1 G: a:1 b:2 c:2 d:3a e:1 f:5 J:1 K: a4, e6
A: a:1245 b:23 c:1 d:2 e: 00000XX+XX0X0007 / 10XXXXX-X0X0X00 A f:2 g:2 h:0-1 ka:123- kb:1234- kc:123- kd:0 ke:M l:1-2 m:1-2	B: a:- b:4(-2) c:- d:1 e:2-3 f:2 C: a:- b:146 c:356 d:1-23 e:1 f:1 g:3bd h:1 j:1 H: a:1245 b:34Pe c:1 d:2 e:1 f:? g:♂	D: a:24Br6 b:1 c:1-2 d:1235 e:1 f:0 g:3 h:0 j:1 k:124 l:1 m:1 Sex: ♂ No. 166 a Age (30 - 35) yrs Ad.	E: a:- b:1315 c:517 d:2 e:3 f:2 g:0 h:1a j:2425 k:2 l:3 m:3 n:2 o:1358bdf p:2ad q:3 r:1haprl s:(2) t:3 u:2b v:135	F: a:o b:32a c:23 d:(2) e:- f:- g:1 G: a:1 b:2 c:31 d:2a e:1 f:4 J:12 K: a0, e7
A: a:145 b:24Ba c:2-3 d:2 e: X000000X+0XXX1000 / 00000XX0-00000000 f:0-1 g:0 h:0-1 ka:123+ kb:1234+ kc:1243- kd:0 ke:0 l:2 m:2	B: a:o b:4(-2) c:69a d:2 e:2 f:1 C: a:0 b:23 c:246 d:1-246 e:1 f:1 g:3bc h:1 j:2 H: a:145 b:2 c:1-2 d:3 e:2 f:♂ g:♂13	D: a:24Br6 b:1 c:1 d:25 e:1 f:0 g:3 h:0-1 j:1 k:3 l:1 m:1 Sex: ♂ No. 166 b Age (30 - 35) yrs Ad.	E: a:o b:45 c:256 d:2 e:2 f:1-2 g:2 h:2a j:56 k:0 l:(1) m:3 n:(3) o:135-68bdf p:3a1d q:3 r:2la s:2 t:2 u:3b v:35	F: a:o b:3ll c:2357 d:2 e:3 f:0 g:1 G: a:1-2 b:2 c:2 d:1a e:1 f:4 J: K: d1-2

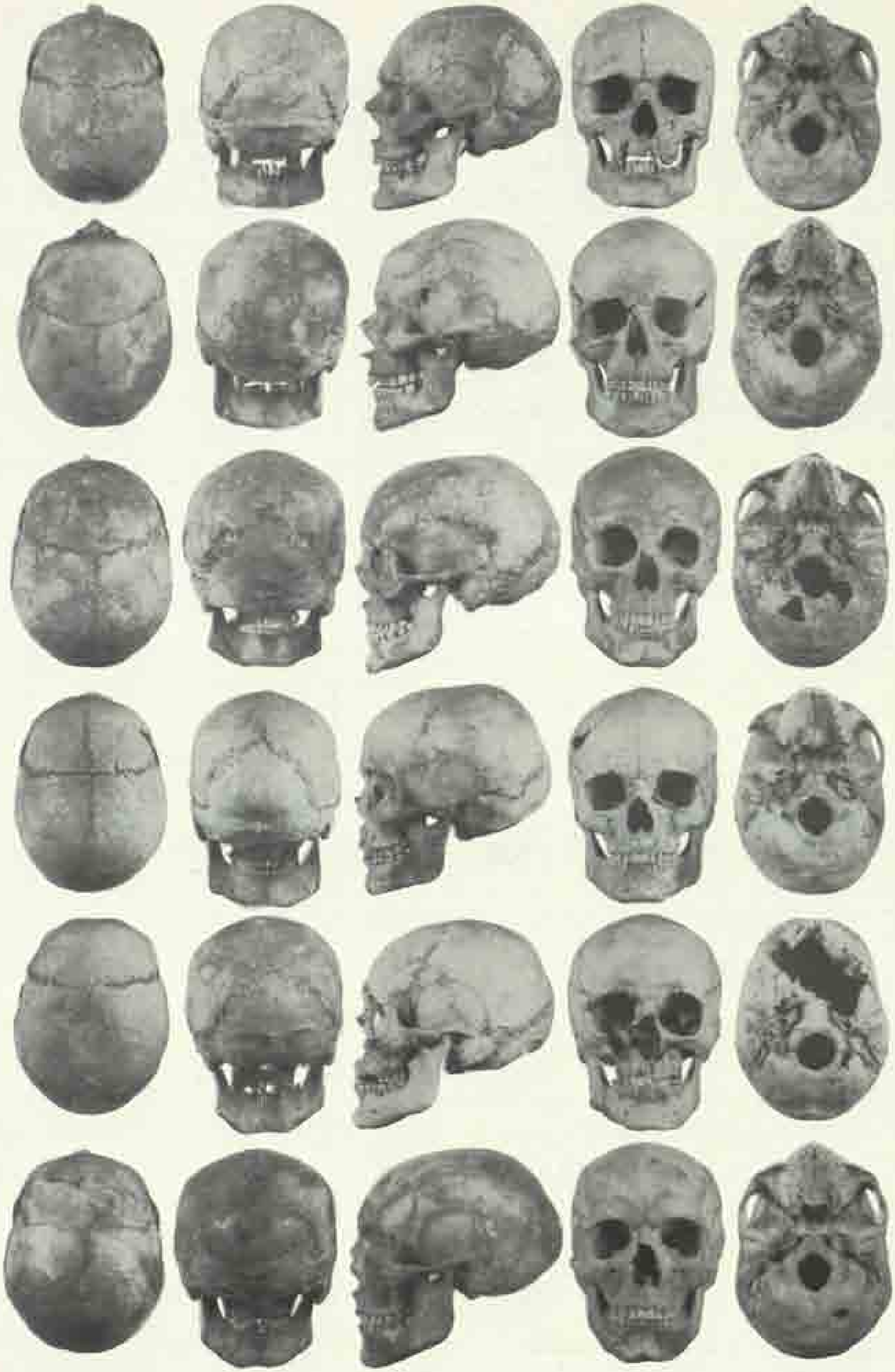


C 41

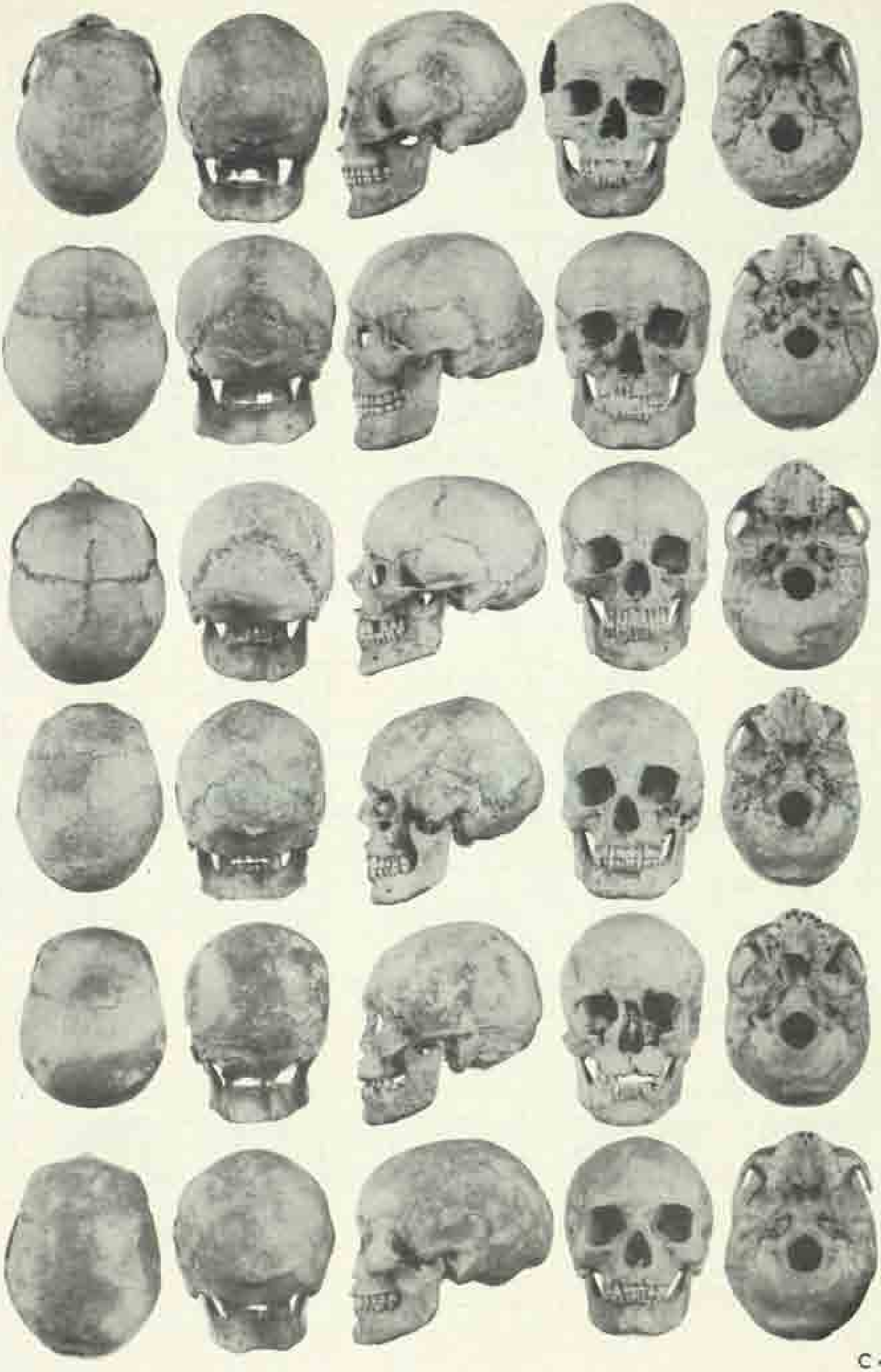
A: a: 175 b: 1 c: 2 d: 3 e: X0000XXX+XXXXX000 000XXXXX-XXXX0000 AK f: 2-3 g: 1-2 h: 0 ka: 12-3+ kb: 1-234+ kc: 12+3- kd: 0 ke: 0 l: 3 m: 2-3	B: a: - b: 4 c: - d: 1-2 e: 1-2 f: - C: a: - b: 1316 c: 12 d: 23 e: 1 f: 1 g: 3bc h: 3 j: 3 H: a: 175 b: 4HusPe c: 2 d: 2 e: 1 f: ♂ g: ♂13	D: a: 279 b: 2-3 c: 2 d: 25 e: 2 f: 1-2 g: 2 h: 1 j: 1-2 k: 3 l: 2 m: 2 Sex: ♂ No. 167 b Age (40 - 50) yrs Mat.	E: a: - b: 1315 c: 56 d: 2 e: 3 f: 1-2 g: 2 h: 3a j: 134 k: 2 l: 2 m: 2 n: 1 o: 12-568bde-f p: 1ad q: 1 r: 2la s: 3 t: 2 u: 15ub v: 25	F: a: - b: 142a c: 232528 d: 2 e: 2 f: 0 g: 2 G: a: 1-2 b: 2-3 c: 2 d: 1a e: 1 f: 3-4 J: 1
A: a: 256 b: 4Zyad5Fr c: 2 d: 3 e: 000000XX+X00XX000 000XX0XX-XXXX000X f: 0-1 g: 0-1 h: 0 ka: 123- kb: 1234- kc: 123- kd: La2 ke: 0 l: 1 m: 2	B: a: - b: 4 c: - d: 3 e: 1-2 f: 2 C: a: - b: 2326 c: 12 d: 1-23 e: 1 f: 1-2 g: 31ac h: 2 j: 3 H: a: 256 b: 2 c: 1-2 d: 2-3 e: 2 f: ♂ g: ♂13	D: a: 24La b: 1-2 c: 1 d: 25 e: 1 f: 0 g: 3 h: 1 j: 1 k: 2 l: 2 m: 2 Sex: ♂ No. 171 Age (18 – 20) yrs Juv.-Ad.	E: a: - b: - c: 56 d: 2 e: 3 f: 1 g: 2-3 h: 2b j: 2425 k: 0-1 l: - m: 3 n: - o: 12-368bdf p: 1ad q: 3 r: 2la s: - t: 2 u: 34b v: 35	F: a: - b: 141l c: (235) d: 2 e: + f: + g: 1 G: a: 1-2 b: 2 c: 2-3 d: 2a e: 2 f: 3 J: + K: a0, d2, e6
A: a: 145 b: 4Fe6 c: 3 d: 3 e: 0000000+XXX0000 00000000-00000000 f: 0-1 g: 0-1 h: 0-2 ka: 123- kb: 1234- kc: 123- kd: La2 ke: M l: 2 m: 3	B: a: - b: 4 c: - d: 1-2 e: 2 f: 3 C: a: - b: 146 c: 356 d: 23 e: 1 f: 3 g: 24bc h: 2 j: 1 H: a: 145 b: 3 c: 3 d: 4 e: 1-2 f: ♂ g: ♂13	D: a: 24La79 b: 3 c: 3 d: 25 e: 1 f: 1-2 g: 2 h: 0 j: 1 k: 3 l: 3 m: 2 Sex: ♂ No. 172 Age (25 - 30) yrs Ad.	E: a: - b: 15-315-1 c: 56 d: 2 e: 3 f: 3 g: 1-2 h: 3a j: 2425 k: 0-1 l: 3 m: 3 n: 2 o: 2-358bde p: 2d q: 2 r: (1hapr?) s: 2 t: (3) u: 15ub v: 125	F: a: - b: 42a c: 2357 d: 2 e: (3) f: 0 g: 1 G: a: 3 b: 2-3 c: 3 d: 3a e: 1 f: 4 J: 2 K: a0+4, d1-2
A: a: 1257 b: 34Fcb c: 3 d: 3 e: 00000000+00000000 0000000-X0000000 f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: *) ke: M l: 3 m: 3 *) Os interparietalis	B: a: o b: 1(-2) c: 69d d: 1-2 e: 1 f: 2 C: a: - b: 146 c: 12 d: 23 e: 1 f: 2-3 g: 24bd h: 1 j: 1 H: a: 1257 b: 34Pe c: 2 d: 3 e: 1-2 f: ♂ g: ♂13	D: a: 24La79 b: 3 c: 3 d: 125 e: 1 f: 0 g: 3 h: 1 j: 1 k: 13 l: 1 m: 1 Sex: ♂ No. 175 Age (25 - 30) yrs Ad.	E: a: - b: 1315 c: 256 d: 1 e: 2 f: 3 g: 1 h: 3a j: 1415 k: 0-1 l: (3) m: (3) n: (3) o: 12-358bde p: 2ad q: 3 r: 1ha s: (2) t: 3 u: 25ub v: 125	F: a: o b: 141l c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 2 b: 2-3 c: 2 d: 3a e: 1 f: 3 J: 12 K: a4, d1-2
A: a: 1245 b: 34Fc6Et 3FrPa c: 2-3 d: 2 e: KA A KA K 0X00000X+00000X00 00000000-00000000 f: 1-3 g: 1-3 h: 0-1 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: 0 l: 3 m: 2-3	B: a: o b: 4(-2) c: 69d d: 2 e: 1-2 f: 1 C: a: - b: 146 c: 12 d: 13 e: 1 f: 3 g: 24bc h: 1 j: 1 H: a: 1245 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 24BrLa679 b: 2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0 j: 1 k: 12 l: 1 m: 1 Sex: ♂ No. 178 Age (40 - 50) yrs Mat.	E: a: - b: 45 c: 2526 d: 2 e: 2 f: 2 g: 1 h: 2-3a j: 156 k: 1-2 l: (3) m: (3) n: (3) o: 1248af p: 3ad q: 2 r: 1ha s: (2) t: (3) u: - v: -	F: a: o b: 42a c: (23-35) d: - e: - f: - g: 1 G: a: 3 b: 2-3 c: 3 d: 3a-b e: 1 f: 4 J: 12 K: a3+4, e6
A: a: 134 b: 45BaEt c: 2-3 d: 3 e: B B 0000001 0+01 000000 00000000-X0000000 f: 2-3 g: 1-2 h: 0-1 ka: 12-3+ kb: 1-234+ kc: 123- kd: 0 ke: 0 l: 2-3 m: 2-3	B: a: - b: 4(-7) c: - d: 2-3 e: 2 f: 2 C: a: - b: 2326 c: 12 d: 245 e: 1 f: 1 g: 24bc h: 2 j: 2 H: a: 134 b: 26Ep c: 2 d: 2 e: 3 f: ♂ g: ♂13	D: a: 279 b: 2 c: 2 d: 25 e: 1 f: 0 g: 3 h: 0 j: 1 k: 3 l: 2 m: 2 Sex: ♂ No. 181 Age (40 - 50) yrs Mat.	E: a: - b: 1315 c: 36 d: 1 e: 1 f: 2 g: 2 h: 2-3a j: 56 k: 2-3 l: (3) m: (3) n: (3) o: 124-58af p: 2a3d q: 1 r: 1ha s: 2-3 t: 3 u: 1-2b v: 125	F: a: - b: 31l c: 232528 d: 2 e: 2 f: - g: 1 G: a: 2-3 b: 2 c: 2 d: 2a e: 2 f: 3 J: 1 K: a4



A: a: 257 b: 253Fr c: 3 d: 1 *: 10000X0X+00000001 / 00000001-00000000 f: 1-3 g: 1-3 h: 0-3 ka: 123- kb: 123-4+ kc: 1+23- kd: La1*) ke: M l: 3 m: 3 *) Occ. part.	B: a: - b: 4(-7) c: - d: 1 e: 2-3 f: 2 C: a: o b: 2326 c: 2 d: 13 e: 1 f: 3 g: 4bc h: 2 j: 2 H: a: 257 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 2679 b: 1 c: 3 d: 125 e: 1 f: 1-2 g: 2 h: 0-1 j: 1-2 k: 3 l: 2 m: 1 Sex: ♂ No. 182 Age (40 - 50) yrs Mat.	E: a: o b: 1315 c: 56 d: 2 e: 3 f: 3 g: 1 h: 1b j: 2425 k: 1-2 l: 3 m: 2 n: 2 o: o2-35-68bde p: 1a2d q: 1 r: 2ha s: 2(-3) t: 2 u: 35ub v: 135	F: a: - b: 61a c: 2357 d: 2 e: 3 f: 0 g: 2 G: a: 2-3 b: 2 c: 2 d: 2a e: 1 f: 119 J: 12 K: a2
A: a: 1247 b: 35qedZyd c: 3 d: 3 *: 00000000+00000000 / 00000000-0000000 f: 0-2 g: 0-1 h: 0-1 ka: 123+ kb: 1234+ kc: 123+ kd: La3*) ke: 0 l: 2 m: 2-3 *) Occ. part.	B: a: - b: 4 c: - d: 2 e: 1 f: 2 C: a: - b: 2326 c: 12 d: 1-23 e: 1 f: 3 g: 3bc h: 2 j: 2 H: a: 1247 b: 2 c: 2 d: 2 e: 2 f: ♂ g: ♂13	D: a: 16/79 b: 2 c: 2 d: 135 e: 1 f: 1-2 g: 2 h: 0-1 j: 1 k: 13 l: 3 m: 2 Sex: ♂ No. 183 Age (35 - 40) yrs Ad.	E: a: - b: 45 c: 256 d: 1 e: 2 f: 1-2 g: 2 h: 3a-c j: 516 k: 1-2 l: 2 m: 2(-3) n: 3 o: 124-58bde p: 3a2d q: 1 r: 11apr1 s: 3 t: 3 u: 25ab v: 135	F: a: - b: 32li c: 2357 d: 2 e: 3 f: (1) g: 1 G: a: 2 b: 2 c: 2 d: 1a e: 2 f: 2-3 J: 2 K: a3+4, d1-2
A: a: 1256 b: 24BxEt c: 3 d: 3 *: 00000000+0000000X / 00000000-00000000 f: 0-1 g: 0-1 h: 0-1 ka: 123- kb: 123-4+ kc: 123- kd: La1 ke: 0 l: 2 m: 2-3	B: a: - b: 4 c: - d: 2 e: 2 f: 1 C: a: - b: 1416 c: 246 d: 123 e: 1 f: 2-3 g: 4bd h: 1 j: 2 H: a: 1256 b: 2 c: 3 d: 3 e: 3 f: ♂ g: ♂13	D: a: 24LaBr89 b: 1-2 c: 1-2 d: 125 e: 1 f: 0 g: 1 h: 0 j: 1 k: 3 l: 1 m: 1 Sex: ♂ No. 189 Age (25 - 30) yrs Ad.	E: a: - b: 1315 c: 256 d: 1 e: 2 f: 2 g: 1 h: 2c j: 56 k: 2-3 l: 3 m: 3 n: 3 o: 24-58bde p: 3a2d q: (2) r: 1hapr1 s: 3 t: 3 u: 35uv v: 34	F: a: o b: 32a c: 23-37 d: 2 e: 3 f: 0 g: 1 G: a: 2-3 b: 2-3 c: 2 d: 3b e: 1 f: 4-5 J: 3 K: a4, ca, d1-2
A: a: 147 b: 24FrdZyd c: 1-2 d: 3 *: o0000000+0000000o / o0000000-0000000o f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La2 ke: M l: 1 m: 1-2	B: a: o b: 4 c: 69d d: 2 e: 1 f: 2 C: a: o b: 2316 c: 256 d: 23 e: 1 f: 1 g: 3bc h: 2 j: 1 H: a: 147 b: 46Ep c: 2 d: 2 e: f: ♂ g: ♂13	D: a: 14BrLa579 b: 2 c: 2 d: 25 e: 1 f: 0 g: 1 h: 0 j: 1-2 k: 3 l: 2 m: 1 Sex: ♂ No. 190 Age (20 - 25) yrs Ad.	E: a: - b: 1315 c: 56 d: 2 e: 3 f: 2 g: 2 h: 2a j: 2425 k: 1-2 l: - m: 2 n: - o: 12-358bde p: 2ad q: 3 r: 21apr1 s: 1-2 t: 2 u: 35ub v: 135	F: a: o b: 41a c: 2357 d: 2 e: 3 f: 0 g: 1 G: a: 1 b: 1-2 c: 2 d: 1-2a e: 2 f: 3 J: K: a0, cd, d1-2
A: a: 1245 b: 4Fr c: 2-3 d: 3 *: X0000000+0XXX0000 / 00000000-00000000 f: 1-3 g: 1-2 h: 0-2 ka: 123- kb: 12-34+ kc: 123- kd: La1 ke: 0 l: 1 m: 2-3	B: a: - b: 4(-1) c: - d: 1-2 e: 2-3 f: 2 C: a: - b: 2326 c: 256 d: 23 e: 1 f: 3 g: 4bd h: 2 j: 1 H: a: 1245 b: 2 c: 2 d: 3 e: 1 f: ♂ g: ♂13	D: a: 24La79 b: 3 c: 1 d: 14 e: 1 f: - g: - h: - j: - k: 12 l: 2 m: 1 Sex: ♂ No. 191 Age (35 - 40) yrs Ad.	E: a: - b: - c: 2526 d: 1 e: 2 f: 3 g: 2 h: 2a j: - k: 1 l: - m: - n: - o: 2-348bdf p: 3a q: 2 r: - s: - t: - u: 2-3b v: 135	F: a: - b: 41a c: - d: - e: - f: - g: - G: a: 2 b: 2 c: 2 d: 2b e: 1 f: 3-4 J: 3 K: a0, b(a), e6
A: a: 1256 b: 24Na c: 3 d: 3 *: o0000000+0000000o / 00000000-00000000 f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La3*) ke: 0 l: 3 m: 3 *) Occ. part.	B: a: - b: 4 c: - d: 2 e: 2 f: 2 C: a: - b: 146 c: 246 d: 1-2456 e: 1 f: 2-3 g: 24ac h: 1 j: 1 H: a: 1256 b: 2 c: 2-3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24La79 b: 2-3 c: 2-3 d: 25 e: 1 f: 0 g: 1 h: 0-1 j: 1 k: 12 l: 1 m: 1 Sex: ♂ No. 194 Age (18 - 20) yrs Juv.	E: a: - b: 1315 c: 56 d: 2 e: 3 f: 2 g: 2 h: 3c j: 56 k: 1 l: 3 m: 3 n: 3 o: 1248bdf p: 3ad q: 3 r: 2ha s: 2-3 t: 2 u: 15ub v: 25	F: a: - b: 14li c: 2357 d: 2 e: 3 f: (1) g: 1 G: a: 2-3 b: 2-3 c: 2 d: 2-3b e: 1 f: 3 J: - K: a3, b(a), d1-2



A: a: 1245 b: 4FrPad c: 2-3 d: 2 e: X00000XX+0X00000X / X0000000 - 00000000 f: 1 g: 1-2 h: 0-2 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: 0 l: 2 m: 2-3	B: a: - b: 4 c: - d: 1 e: 2 f: 2 C: a: - b: 2326 c: 12 d: 246 e: 1 f: 2 g: 24bd h: 2 j: 2 H: a: 1245 b: 23 c: 1 d: 2-3 e: 3 f: ♂ g: ♂13	D: a: 24La89 b: 2 c: 2 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1-2 k: 13 l: 2 m: 2 Sex: ♂ No. 195a Age (40 - 50) yrs Mat.	E: a: - b: 45 c: 56 d: - e: 3 f: 2-3 g: 0-1 h: 2c j: 2425 k: 1 l: 2 m: 2 n: 2 o: 12-358bde p: 2ad q: 1-2 r: 2ia s: 2-3 t: 2 u: 15ab-v v: 125	F: a: - b: 141i c: 23257 d: 2 e: 3 f: 1-2 g: 1 G: a: 2 b: 2-3 c: 3 d: 2-3b e: 1 f: 5 J: 2 K: a4, d1, e6
A: a: 15 b: 3Fra4Fc6 c: 3 d: 3 e: 000000XX+00R000000 / 00000000-00000000 f: 0-1 g: 0-1 h: 0 ka: 123- kb: 123-4+ kc: 123- kd: 3a4La123 ke: M l: 2 m: 3	B: a: - b: 4(-2) c: - d: 1-2 e: 1-2 f: 2 C: a: - b: 46 c: 1246 d: 13 e: 1 f: 34 g: 3bc h: 1 j: 1 H: a: 15 b: 2 c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 4LaBr b: 2 c: 2-3 d: 25 e: 1 f: 0 g: 3 h: 1 j: 1 k: 12 l: 1 m: 1 Sex: ♂ No. 200a Age (25 - 30) yrs Ad.	E: a: - b: 1318 c: 136 d: 1 e: 1 f: 2-3 g: 1 h: 1-2a j: 149 k: 2-3 l: (3) m: 3 n: (3) o: 12-358bde p: 2ad q: 3 r: 1ha s: (1-2) t: 5 u: 15uv v: 24	F: a: - b: 142a c: 2357 d: 2 e: 3 f: (1) g: 1 G: a: 3 b: 3 c: 3 d: 2b e: 1 f: 5 J: 23 K: a2-3, b(a)
A: a: 147 b: 1 c: 2 d: 3 e: 00000000+0000X000 / 00000000-00000000 K f: 0-1 g: 2-3 h: 1-2 ka: 123- kb: 1-234+ kc: 123+ kd: 0 ke: M l: 2-3 m: 2-3	B: a: - b: 4(-2) c: - d: 3 e: 1 f: 2 C: a: - b: 46 c: 1246 d: 23-45 e: 1 f: 1 g: 3bc h: 1 j: 1 H: a: 147 b: 2 c: 1 d: 3 e: 3 f: ♂ g: ♂13	D: a: 14Br579 b: 1-2 c: 1-2 d: 25 e: 1 f: 1-2 g: 2 h: 1 j: 2 k: 13 l: 1 m: 1 Sex: ♂ No. 201 Age (35 - 40) yrs Ad.	E: a: - b: 23 c: 56 d: 1 e: 3 f: 1-2 g: 3 h: 1-2a j: 34 k: 3 l: 3 m: 1 n: 1 o: 1258bdf p: 2ad q: 2-3 r: 1ha s: 2-3 t: 3 u: 1-25mb v: 125	F: a: - b: 41le c: 567 d: 1 e: 3 f: 2 g: 2 G: a: 2 b: 1-2 c: 2 d: 1-2a e: 1 f: 3 J: 1 K: a3, d1, e6
A: a: 1256 b: 242ySqd5 c: 2 d: 2 e: 0000000+0000000 / 0010000-Y000000 f: 1-2 g: 1 h: 0-1 ka: 123+ kb: 1234+ kc: 12+3- kd: La3 ke: 0 l: 1 m: 2	B: a: o b: 4 c: 359d d: 1 e: 1 f: 1 C: a: - b: 2316 c: 2-356 d: 1-246 e: 1 f: 3 g: 3bd h: 2 j: 1 H: a: 1256 b: 2 c: 2-3 d: 3 e: 2-3 f: ♂ g: ♂13	D: a: 14BrLa5679 b: 3 c: 3 d: 214 e: 1 f: 0 g: 3 h: 1 j: 1-2 k: 12 l: 2 m: 2 Sex: ♂ No. 202 Age (35 - 40) yrs Ad.	E: a: - b: 23 c: 2526 d: 1 e: 2 f: 3 g: 0 h: 2a-b j: 134 k: 1-2 l: (3) m: 2 n: 1 o: 2-358bdf p: 2d q: 1 r: 1ha s: 2 t: 3 u: 25ub-v v: 135	F: a: - b: 41i c: 1567 d: 1 e: 3 f: 1-2 g: U G: a: 1-2 b: 2 c: 3 d: 1a e: 1 f: 4 J: 1 K: a0, b(a), d1-2
A: a: 1256 b: 3Fra4Fc65 c: 2 d: 3 e: AAA A A 0XXXX0XX+1XXX00XX / 00000000 - 0000X000 f: 0-3 g: 0-3 h: 0-2 ka: 123+ kb: 1234+ kc: 123+ kd: 0 ke: 0 l: 2 m: 2	B: a: - b: 4(-2) c: - d: 3 e: 2 f: 2 C: a: - b: 2326 c: 1246 d: 245 e: 1 f: 2-3 g: 3ad h: 2 j: 2 H: a: 1256 b: 4Pe c: 2 d: 2 e: 2-3 f: ♂ g: ♂13	D: a: 24BrLa79 b: (2-3) c: 2 d: 125 e: 1 f: 0 g: 3 h: 0-1 j: 1-2 k: 13 l: 3 m: 2 Sex: ♂ No. 211 Age (40 - 50) yrs Mat.	E: a: - b: 13-315-5 c: 256 d: 1 e: 2 f: 2 g: 2 h: 2a j: 2425 k: 0-1 l: 2 m: 2 n: 2 o: 1248bde p: (3ad) q: (2) r: 1hv s: 1 t: 3 u: - v: -	F: a: - b: 41i c: (567) d: - e: - f: - g: U G: a: 3 b: 2 c: 3 d: 1-2a e: 2 f: 5 J: 12 K: a0, c(d+e)
A: a: 1245 b: 242ya c: 2-3 d: 3 e: 0000000X+X000000 / 0000000-0000000 f: 0-3 g: 0-2 h: 0-1 ka: 123+ kb: 1234+ kc: 123+ kd: *) ke: 0 l: 2 m: 2-3 *) Mast. d. + Par. d.	B: a: o b: 4(-2) c: 359 d: 1-2 e: 1-2 f: 2 C: a: - b: 46 c: 346 d: 23 e: 1 f: 3 g: 3bc h: 1 j: 1 H: a: 1245 b: 2 c: 2 d: 3 e: 1-2 f: ♂ g: ♂13	D: a: 14BrLa5679 b: (2-3) c: 1 d: 24-5 e: 1 f: 0 g: 3 h: 1-2 j: 1-2 k: 12 l: 1 m: 1 Sex: ♂ No. 213 Age (40 - 50) yrs Mat.	E: a: - b: 1315 c: 36 d: 2 e: 3 f: 1-2 g: 1-2 h: 3a j: 2425 k: 0-1 l: 3 m: 2 n: 2 o: 1258bde p: 2ad q: 2-3 r: 2hepr1 s: 2 t: 2 u: 1-25ub-v v: 135	F: a: - b: 142a c: 1567 d: 1 e: 3 f: 2 g: 1 G: a: 3 b: 2 c: 3 d: 1-2a e: 1 f: 4 J: 1(3) K: a0, d2, e6



A:b 7 Fr da Oc-Sg 1 Oc-Ba 1 Ptr da A:ke	A:j DGGGGGGG+GGGGGGGD DGGGGGGG-GGGGGGGD	No. 9 Age: (13-14) years Sex: ♂	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g ♂0 J: - K:d1-2?, e4

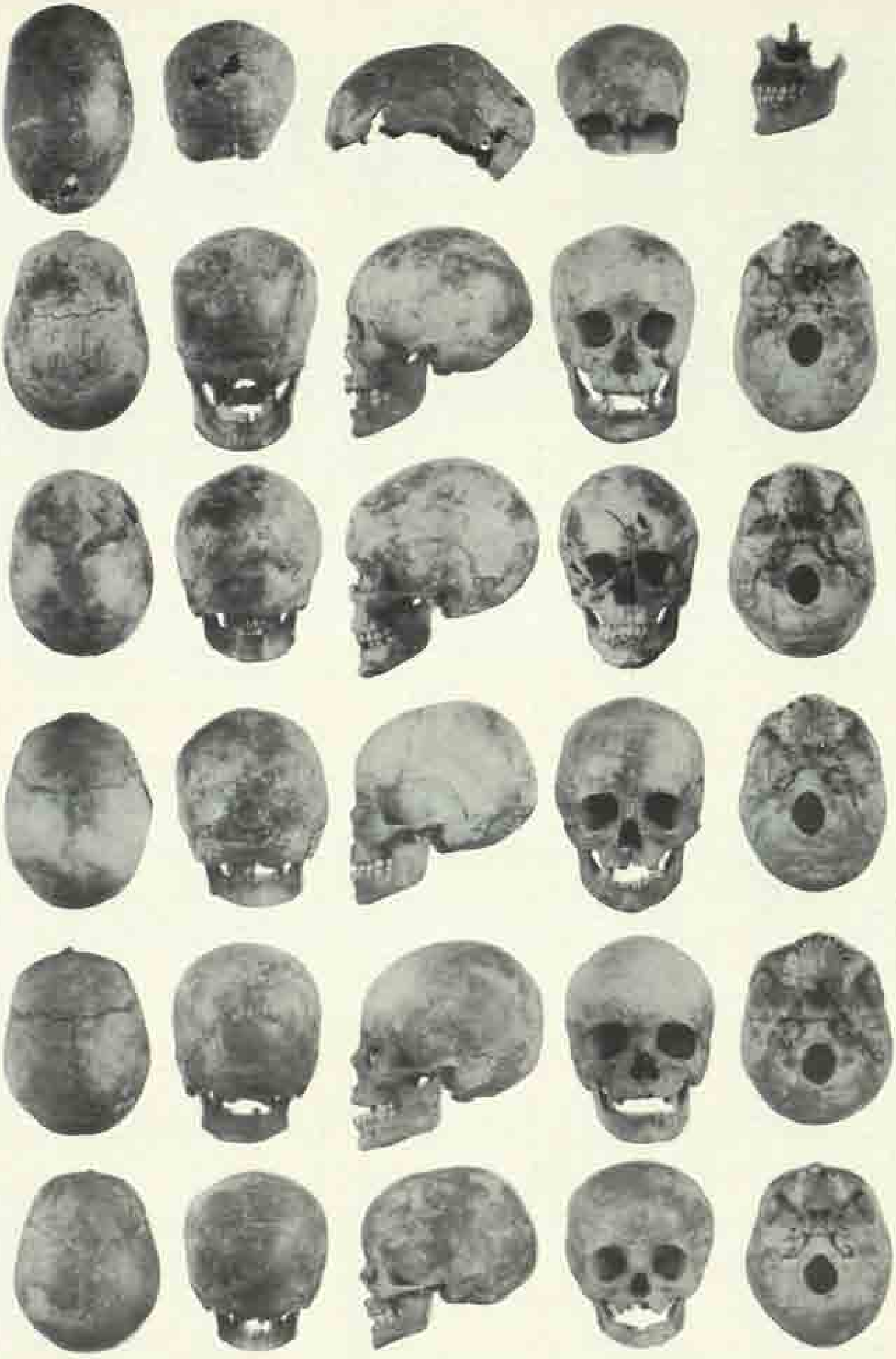
A:b 2 Fr da Oc-Sg 1 Oc-Ba 1 Ptr da A:ke	A:j BGGGGGGG+GGGGGGGB BGGGGGGG-GGGGGGGB R	No. 33 Age: (11 - 12) years Sex: ?	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi d	H:g - J: - K: a0

A: a:1247 b:4FrdEt c:1 d:1 e: $\frac{0000000+0000000a}{a000000X-000X000a}$ f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: aCo2 ke: 0 l:0-1 m: 1	B: a: - b: 4 c: - d: 0-1 e: 2 f: 3 C: a: - b: 263 c: 256 d: 245 e: 1 f: 0-1 g: 14bc h: 1 j: 2 H: a: 1247 b: 2 c: 1 d: 1 e: - f: - g:	D: a:14Fr5 b: 1 c: 1 d:315 e: 1 f: 0 g: 3 h: 1 j: 2 k: 13 l: 2 m: 3 Sex: ♂ ! No. 83 Age (15 - 16) yrs Juv.	E: a: - b: 45 c: 36 d: 1 e: 1 f: 0-1 g: 0-1 h: 3a-b j: 56 k: 0-1 l: 1 m: 2 n: 3 o: 1248bde p: 35 q: 1 r: 2hspr1 s: 1 t: 2 u: + v: -	F: a: - b: 2a14 c: 567 d: 1 e: 3 f: 0(-1) g: 1-2 G: a: 1 b: 1 c: 2-3 d: 2a e: 2 f: 5 J: - K: a0-1, d1

A:b 2 Fr d+a Oc-Sg 1 Oc-Ba 1 Ptr da A:ke 8 mm (M)	A:j jjj-- + --jj EG---GG + GG---GE EG---GG - GG---GE jjj-- - --jjj	No. 100 Age (9 - 10) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - f: 11-2 K:a0, d1-2

A: a:125 b:22yd c:1 d: - e: $\frac{0000000+0000000a}{a000000X-000X000a}$ f: 0-1 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 0-1 m: 1	B: a: - b: 4(-2) c: - d: 3 e: 2-3 f: 3 C: a: - b: 165 c: 12 d: 245 e: 1 f: 0-1 g: 14bc h: 3 j: 2 H: a: 125 b: 2 c: 1 d: 1 e: f: ⚥ g: ♂)	D: a: 23(7) b: 1 c: 1 d: 25 e: 1 f: 1-2 g: 2 h: 3 j: 2 k: 5 l: 3 m: 3 Sex: ♂ No. 103 Age (16 - 18) yrs Juv.	E: a: - b: 23 c: 256 d: 1 e: 2 f: 0-1 g: 2-3 h: 2a-b j: 134 k: (2) l: - m: 1 n: - o: 1358bdef p: 2ad q: 3 r: 3lapr3 s: 1 t: 1 u: 25uv v: 124	F: a: - b: 3li c: 237 d: 2 e: 3 f: 0 g: 2-U G: a: 1 b: 1 c: 3) d: 1a e: 1 f: 3 J: - K: a0, ba, cda

A:b 1 Fr d+a Oc-Sg 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGG+GGGGG G---EF+FE---G G---EF-FE---G GGGGG - GGGGG	No. 108 Age (6 - 7) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K:a0



A:b 1 Fr dra Oc-Sq 1 Oc-Ba 1 Ptr da A:ke M	A:j j-- + --j F-GF-GG+GG-FG-F GGFFFGG-GGFFFGG JJ--- = ---JJ	No. **127** Age: (9 - 10) years	H:h Cl da Hu da Re da Ul da Fr da Ti da Fi da	H:g - J: - K:a0, b(a), d1-2

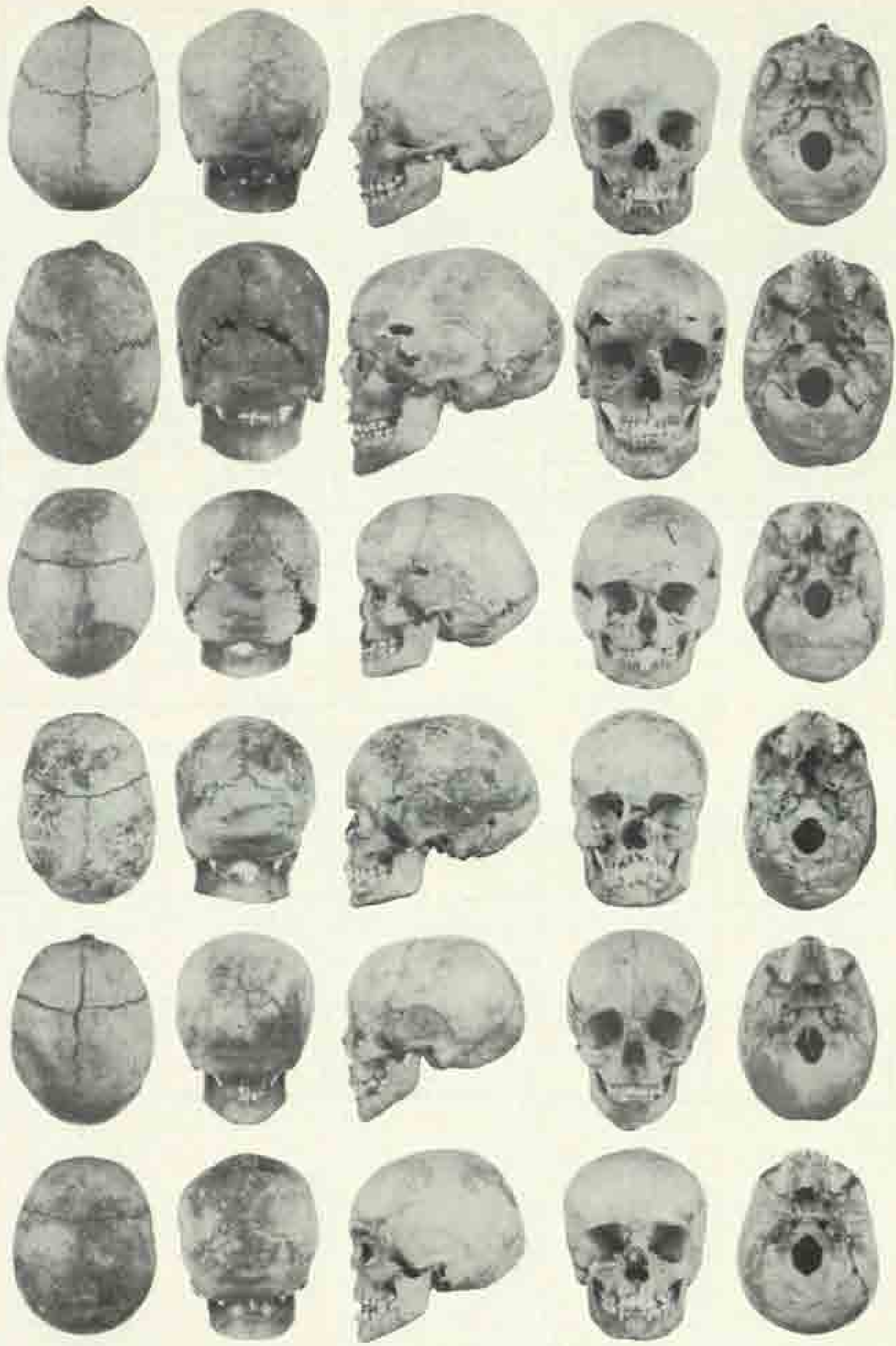
A: a:257 b:6 c:1 d:3 e: 00R 0000+0000000o 00000000-0000000o f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La12 ke: 0 l: 1 m: 2	B: a: o b: 4(-2) c: 138d d: 3 e: 1 f: 1 C: a: o b: 235 c: 12 d: 145 e: 1 f: (2) g: 24bc h: 3 j: 3 H: a: 257 b: 46Ep c: 2 d: 2 e: f: - g: ♂1(3)	D: a: 24BrLa6 b: 2 c: 2 d: 25 e: 1 f: 0 g: 3 h: 2 j: 1 k: 3 l: 2 m: 2 Sex: ♂ No. **128** Age (16 - 18) yrs Juv.	E: a: o b: 45 c: 256 d: 2(-1) e: (3) f: 1 g: 3 h: 2a j: 56 k: 1 l: 1 m: 3 n: 3 o: o25-68bdf p: 2a1d q: 2 r: 21 s: 3 t: 2 u: 15uv v: 24	F: a: o b: 14a c: 237 d: 2 e: 3 f: 0 g: 1 G: a: 2 b: 2 c: 2 d: 2a e: 1 f: 5 J: 13 K: a3+4, d1-2

A:b b Fr dra Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j G--G- + -G--G EG----F + F----GE EG----F - F----GE G--G-- - -G--G	No. **129** Age: (7 - 8) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K:a0, ba, d1-2, e4

A:b 2 Fr da Oc-Sq 1 Oc-Ba 1 Ptr da A:ke A:kd:La	A:j EGGGGGGG+GGGGGGGE EGGGGGGG-GGGGGGGE	No. **143** Age: (9 - 10) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K:a0

A:b 1 Fr da Oc-Sq 1 Oc-Ba 1 Ptr da A:ke M A:kd:La	A:j GGGGG + GGGGG EF----- + -----FE EF----- - -----FE GGGGG - GGGGG	No. **144** Age: (7 - 8) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - F: (1 K: e4

A:b 2 Fr dra Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGFGG+GGFGGGG AGGGGGGG-GGGGGGGA	No. **145 a** Age: (8 - 9) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K: a1



A:b 6 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG DG----E+E----GD DG---FF-FF---GD GGG-----GGG	No. **154** Age: (6 - 7) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: +

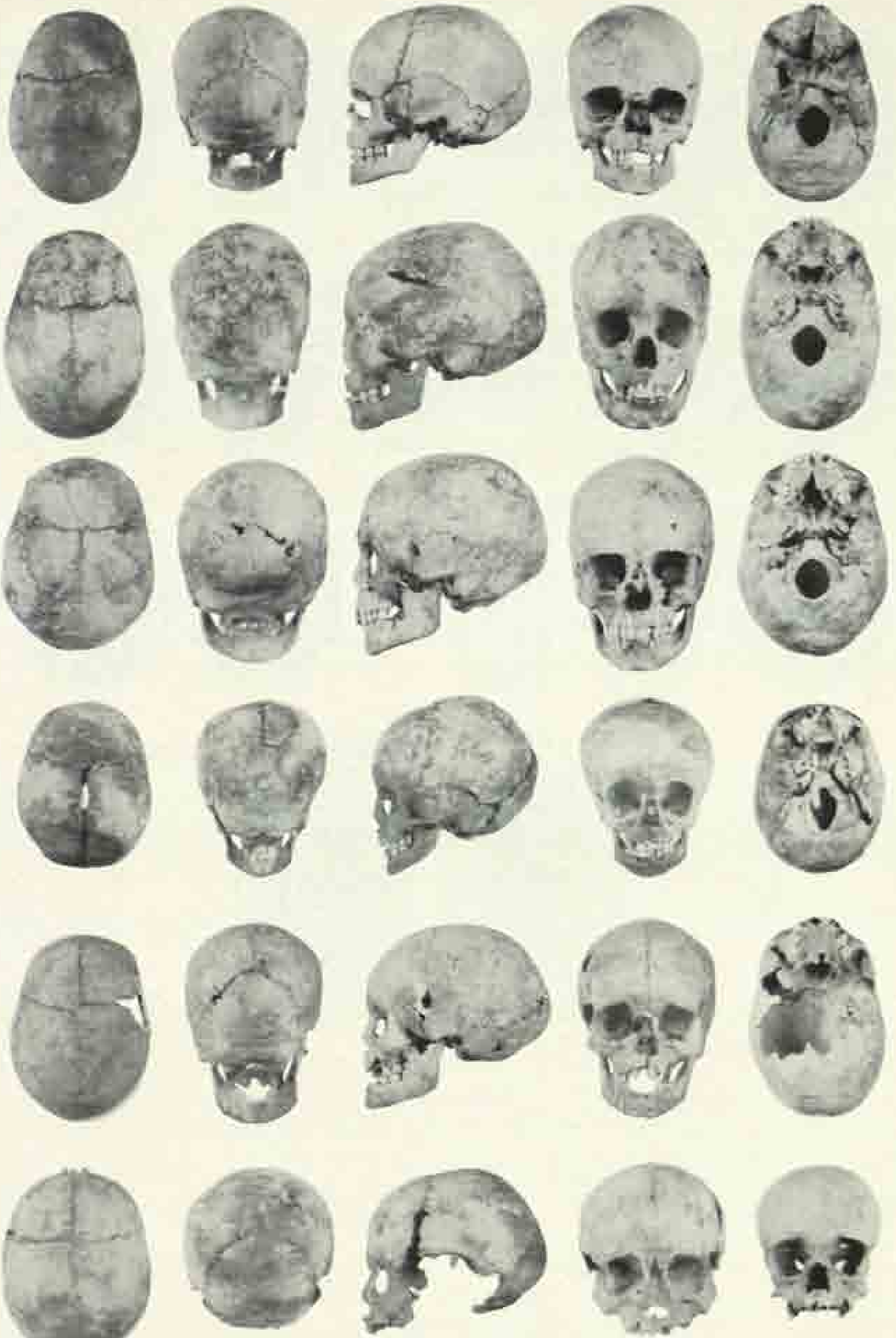
A:b 6 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:kd:La	A:j j-j--+ --j-j FG---GG + GG---GF FG---GG - GG---GF j-j-- - --j-j	No. **167 a** Age: (8 - 9) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: + F: fi K:a0, d1-2

A:b 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke A:kd: cor a.	A:j GGGGGGG+GGGGGGG ??GGGGGG-GGGGGG??	No. **167 c** Age: (9 - 10) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi a	H:g - J: - K:b(a)

A:b 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG E ----- + ----- E E ----- - ----- E GGGGG-GGGGG	No. **169** Age: (3 - 4) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: !

A:b 6 Fr da Oc-Sq ! Oc-Ba - Ptr da A:ke M	A:j jj--- + ---jj EG---FE + EF---GE EG---FE - EF---GE jj--- - ---jj	No. **176** Age: (8 - 9) years	H:h Cl da Hu da Ra - Ul da Fe da Ti da Fi da	H:g - J: - K:a0

A:b 6 Fr da Oc-Sq ! Oc-Ba - Ptr - A:ke M	A:j F------ + ------F F------ - ------F	No. **177** Age: (9 - 10) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K: a0



A:h 8Fc Fr dta Oc-Sq Oc-Ba Ptr da A:kc	A:j R EGFFFGG+GGFFFGE FGGGGGG-GGGGGGF R (---------)	No. 218 Age: (11 - 12) years	H:h Cl da Hu da Ra da Ul da Fc da Ti da Fi da	H:g - J - K: a0, cdta, di-2
A: a:145 b: 24Zyd c:1 d: 2 e: 00000000+00000000 / 000X0000-00R0000 f: 0-1 g:0 h: 0 ka: 123- kb: 1234- kc: 123- kd: La ke: 0 l: 2 m: 1-2	B: a: - b:4 c: - d: 2 e: 1-2 f: 1 C: a: - b: 35 c: 256 d: 145 e: 1 f: 0-1 g: 4hd h: 3 j: 3 H: a: 145 b: 2 c: 1-2 d: 1 e: 1 f: ♂ g: ♂12	D: a: 14La b: 2 c: 2 d:125 e: 1-2 f: 1-2 g: 2 h: 1 j: 2 k: 13 l: 2 m: 2 Sex: ♂ No. 219 Age (16 - 18) yrs Juv.	E: a: - b: 23 c: - d: - e: - f: 2 g: 2 h: 2a j: 34 k: 1 l: 2 m: 1 n: 1 o: 1246bdf p: 1e q: 2 r: 2lapr? s: 2 t: 2 u: 2-35ab v: 125	F: a: - b: 32a c: 667 d: 1 e: 3 f: 1 g: 1 G: a: 2 b: 2 c: 2 d: 1-2b e: 3 f: 3 J: - K: a0, di
A: a: 175 b: 4Ba 2ya c: 3 d: 3 e: ?0X0000X + X1000011 / 0 00 0000 0 - X00000 00 f: 1-3 g: 2-3 h: 1 ka: 123- kb: 12-34+ kc: 12-3+ kd: - ke: - l: 3 m: 2-3	B: a: - b: 4 c: - d: 0-1 e: 3 f: 2 C: a: - b: 36 c: 12 d: 13 e: 1 f: 2 g: 24c h: 2 j: 1 H: a: 175 b: 4 Ep ? c: 3 d: 3 e: - f: ♂ g: ♂	D: a: 15 b: 2-3 c:2-3 d:125 e: 1 f: 0 g: 3 h: 0 j: 1-2 k: 3 l: 3 m: 2 "Mj" Sex: ♂ Age (40 - 50) yrs	E: a: - b: 23 c: 256 d: 2 e: 2 f: 2-3 g: 0-1 h: 3b j: 34 k: - l: - m: 2 n: - o: 2368af p: dl q: 2 r: 2ba s: 2-3? t: 2 u: 2b v: 134	F: a: - b: 42a c: 25(7) d: 2 e: - f: - g: 2 G: a: 3 b: 3 c: 2 d: 3a e: 2 f: 2 J: 1
A:h 7 Fr dta Oc-Sq 1 Oc-Ba 1 Ptr da A:kc	A:j jj--- + ---jj FG---GG + GG---GF FG---GG - GG---GF jj--- - ---jj	No. 199 Age (9 - 10) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -

A:b 8 Fr d+s Oc-Sq – Oc-Ba ? Ptr ds A:ke	A:j E?FF+FF?E ------ – ------	No. 2a Age (6 – 9) months	H:h Cl + Hu ds Ra – Ul + Fe ds Ti d Fi ds	H:g – J –
A:b 8 Fr ds Oc-Sq – Oc-Ba + Ptr – A:ke	A:j EB??+??BE EB??-??BE	No. 2 b Age (6 – 9) months	H:h Cl d Hu – Ra + Ul + Fe d Ti + Fi d	H:g – J –
A:b 8 Fr – Oc-Sq – Oc-Ba ! Ptr ds A:ke	A:j ?E? + ?E? AB???-???BA	No. 2 c Age (3 – 6) months	H:h Cl ds Hu ds Ra ds Ul ds Fe ds Ti + Fi –s	H:g – J –
A:b 8 Fr – Oc-Sq + Oc-Ba + Ptr ds A:ke	A:j ------ ? ------ AB???-???BA	No. 2 d Age (0 – 3) months	H:h Cl d Hu + Ra – Ul – Fe + Ti + Fi +	H:g – J –
A:b 8 Fr + Oc-Sq – Oc-Ba + Ptr – A:ke	A:j ------ ? ------ ------ – ------	No. 2 e Age (0 – 3) months	H:h Cl – Hu d Ra d Ul d Fe – Ti ± Fi d	H:g – J –
A:b 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B+B ------ – ------	No. 2 f Age Foetus	H:h Cl d Hu – Ra d Ul d Fe – Ti – Fi –	H:g – J –
A:b 8 Fr d+s Oc-Sq ! Oc-Ba ! Ptr ds A:ke	A:j AEE + EEA AEE – EEA	No. 7 Age (3 – 6) months	H:h Cl + Hu ds Ra ds Ul ds Fe ds Ti ds Fi ds	H:g – J –
A:b 98 Fr ds Oc-Sq ! Oc-Ba ! Ptr ds A:ke	A:j DGGG?? + ??GGGD DGGG??-??GGGD	No. 10 Age (2 – 2,5) years	H:h Cl + Hu ds Ra ds Ul ds Fe ds Ti ds Fi ds	H:g – J !
A:b 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j GGGGGGG+GGGGGGG ------ – ------	No. 13 Age (12 – 13) years	H:h Cl – Hu ds Ra ds Ul ds Fe ds Ti ds Fi ds	H:g ♂ J !
A:b 8 Fr d+s Oc-Sq ? Oc-Ba ! Ptr ds A:ke	A:j ------ ? ------ ------ – ------	No. 14 a Age (3 – 6) months	H:h Cl – Hu – Ra – Ul ds Fe ds Ti – Fi –	H:g – J –
A:b 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B??EE+EE??B BB?EE-EE?BB	No. 14 b Age (6 – 9) months	H:h Cl ds Hu ds Ra – Ul d Fe d Ti – Fi –	H:g – J –
A:b 8 Fr d+s Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ ? ------ ------ – ------	No. 15 a Age (3 – 6) months	H:h Cl ds Hu – Ra ds Ul + Fe – Ti – Fi –	H:g – J –
A:b 8 Fr d?s Oc-Sq ! Oc-Ba ! Ptr ds A:ke	A:j BDB?D+D?BDB BDB??-??BDB	No. 16 Age (6 – 9) months	H:h Cl ds Hu ds Ra ds Ul ds Fe ds Ti ds Fi ds	H:g – J –

A:b 8 Fr de Oc-Sq ! Oc-Ba ! Ptr da A:ke: (M)	A:j ??????????? BEG??? -???GEB	No 18 Age: (1,5 - 2) years	H:h Cl - Hu d Ra - Ul - Fe - Ti da Fi -	H:g - J - K: cdts
A: a:5 b:78 c:1 d:- e: IIIOOXII + IIXXXIII / ?OOOOXOX - IIIXXIX? f: 2-3 g: 2-3 h: 2-3 ka: 123- kb: 1234+ kc: 123? kd: - ke: 0 l: 1-2 m: 2	B: a: - b: - c: - d: - e: - f: - C: a: - b: - c: - d: - e: - f: 1-2 g: 3bc h: - j: - H: a: 5 b: 46 c: 1 d: 1 e: 1-2 f: ♀ g: ♀24	D: a: - b: - c: 2 d: - e: - f: - g: - h: - j: - k: 12 l: - m: - Sex: ♀ No. 19 Age (50 - 60) yrs Mat.	E: a: - b: - c: - d: - e: - f: - g: - h: 3a j: - k: - l: - m: - n: - o: - p: - q: 1 r: - s: - t: - u: - v: -	F: a: - b: - c: 0468 d: - e: - f: 2 g: 0 G: a: 1-2 b: 1-2 c: 3 d: 3a e: 1 f: 4 J: 1 K: a0
A: a: 147 b: 78 c: 1 d: - e: 0------?+?------- / ??X1000X-X000III? f: 3 g: 3 h: 2-3 ka: 123+ kb: 1234+ kc: 123- kd: 0 ke: 0 l: 1 m: 1-2	B: a: - b: - c: - d: - e: - f: - C: a: - b: - c: 346 d: - e: 1 f: 0-1 g: 3bc h: - j: - H: a: 147 b: 47 c: 0 d: 1 e: 1 f: ♀ g: ♀	D: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: 13 l: - m: - Sex: ♀ No 20 Age (> 60) yrs Sen.	E: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 0 b: 1 c: 2-3 d: 1a e: - f: - J: 1 K: a0
A:b 8 Fr ds Oc-Sq ! Oc-Ba - Ptr a A:ke	A:j ------- + ------- ------ - ???EB	No 20 a Age: (6 - 9) months	H:h Cl e Hu a Ra - Ul - Fe - Ti de Fi -	H:g - J -
A:b 8 Fr dts Oc-Sq - Oc-Ba - Ptr - A:ke: M	A:j ------- + ------- ------- - -------	No 25 b Age: (3 - 4) years	H:h Cl da Hu a Ra a Ul d Fe da Ti - Fi -	H:g - J -
A:b 58 Fr - Oc-Sq ! Oc-Ba - Ptr - A:ke:	A:j ------- + ------- ------- - -------	No 25 c Age: (0 - 3) months	H:h Cl - Hu - Ra Ul - Fe d Ti - Fi -	H:g - J -
A:b 8 Fr de Oc-Sq ! Oc-Ba ! Ptr da A:ke:	A:j J J - - - + - - - J J FHEGFGG + GGFGEHF FHEGFGG - GGFGEHF	No 26 Age: (10 - 11) years	H:h Cl de Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J ! K: a0, d1-2
A:b 2 Fr dts Oc-Sq ! Oc-Ba ! Ptr da A:ke:	A:j ------- + ------- ------- - -------	No 27 Age: (0 - 3) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -
A:b 2 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke: M 1 cm	A:j GGGGG+GGGGG B------ - ------B GGGGG - GGGGG	No 28 Age: (3 - 4) years	H:h Cl da Hu da Ra a Ul da Fe da Ti da Fi -	H:g - J -
A:b 8 Fr da Oc-Sq ! Oc-Ba - Ptr da A:ke	A:j BGGDGGGG+GGGGDGGB BGGDGGGG-GGGGDGGB	No 29 Age: (11 - 12) years	H:h Cl da Hu de Ra da Ul d Fe da Ti da Fi da	H:g - J - K: a4, d1-2
A:b 2 Fr dts Oc-Sq ! Oc-Ba ! Ptr da A:ke: M	A:j EGGGGG+GGGGGE EGGGGG-GGGGGE	No 35 a Age: (4 - 4,5) years	H:h Cl da Hu da Ra da Ul a Fe - Ti - Fi -	H:g - J 1?

A:b 578 Fr d+s Oc-Sq I Oc-Ba - Ptr ds A:ke	A:j EBEE+EEBE BEBEE-EEBEB	No. **35 b** Age (3 – 6) months	H:h Cl ds Hu - Ra - Ul - Fe - Ti d Fi -	H:g - J -
A: a:1245 b:86Fc4Pa c: 1 d: – e: 0000X0XX+0X000000 / 00000000 - X00X0100 (AA K K / AA AK) f: 0-3+ g:0-2 h: 0 ka: 123- kb: 1234- kc: 125- kd: 0 ke: M l: 0-1 m: 1	B: a: - b: 4 c: - d: 2 e: 1 f: (3) C: a: - b: 263 c: 12 d: 246 e: 1 f: 1 g: 3bd h: - j: - H: a: 1245 b:4PesHud c: 0-1 d: 0-1 e: 1 f: ♀ g: ♀24	D: a: 27 b: - c: 1 d: 25 e: - f: - g: - h: - j: - k: 5 l: - m: - Sex: ♀ No. **36** Age (30 – 35) yrs Ad.	E: a: - b: - c: 516 d: - e: - f: 0-1 g: 1-2 h:3a j: - k: - l: - m: - n: - o: - p: - q: (3) r: - s: - t: - u: - v: -	F: a: - b: 111 c: - d: - e: - f: - g: - G: a: 1-2 b: 1 c: 5 d: 2a e: 1 f: 1-4 J: K: a+s5
A:b 27 Fr d+s Oc-Sq I Oc-Ba I Ptr ds A:ke	A:j DFEFF+FFEFD EFFFF-FFFFE	No. **39** Age (3/4 – 1) year	H:h Cl ds Hu ds Ra d Ul ds Fe ds Ti ds Fi ds	H:g - J -
A:b 8 Fr ds Oc-Sq I Oc-Ba I Ptr d A:ke	A:j DE?FF+FF?ED D??F-F??D	No. **41 a** Age (6 – 9) months	H:h Cl d Hu ds Ra ds Ul ds Fe ds Ti ds Fi d	H:g - J: I
A: a: - b: 9 c: d: e: f: g: h: ka: kb: kc: kd: ke: l: m:	B: a: b: c: d: e: f: C: a: b: c: d: e: f: g: h: j: H: a: 15 b: 24Ped c: 2 d: 1-2 e: 2 f: ♀ g: ♀24	D: a: b: c: d: e: f: g: h: j: k: l: m: Sex: ♀ No. **47** Age Adult ( ) yrs	E: a: b: c: d: e: f: g: h: j: k: l: m: n: o: p: q: r: s: t: u: v:	F: a: b: c: d: e: f: g: G: a: b: c: d: e: f: J: I
A:b 8 Fr ds Oc-Sq I Oc-Ba I Ptr d A:ke	A:j G???+???G BFF--- ---FFB	No. **49** Age (1.5 – 2) years	H:h Cl ds Hu ds Ra ds Ul ds Fe ds Ti ds Fi d	H:g - J -
A:b 5 Fr Oc-Sq Oc-Ba Ptr A:ke	A:j ------ + ------ BC--- - ---CB	No. **50 b** Age (3 – 6) months	H:h Cl s Hu s Ra ds Ul d Fe d Ti d Fi -	H:g - J -
A:b 58 Fr Oc-Sq Oc-Ba Ptr A:ke	A:j ------ + ------ C--- - ---C	No. **50 c** Age (3 – 6) months	H:h Cl s Hu d Ra - Ul - Fe - Ti - Fi -	H:g - J -
A:b 8 Fr d Oc-Sq - Oc-Ba - Ptr - A:ke	A:j EGGGGG+GGGGGE EGGGGG-GGGGGE	No. **51-68 a** Age (4 – 5) years	H:h Cl ds Hu ds Ra ds Ul ds Fe ds Ti s Fi -	H:g - J -
A:b 8 Fr d+s Oc-Sq - Oc-Ba - Ptr - A:ke M	A:j DGGGGG+GGGGGD DGGGGG+GGGGGD	No. **51-68 b** Age (3 – 4) years	H:h Cl ds Hu ds Ra d Ul d Fe ds Ti ds Fi d	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke -	A:j ------ + ------ ------ - ------	No. **51-68 c** Age (2 – 2.5) years	H:h Cl - Hu ds Ra d Ul - Fe - Ti s Fi -	H:g - J -

A:b 8 Fr da Oc-Sq - Oc-Ba - Ptr - A:ke	A:j FGGGG+GGGGF B------E+E------B B------E-E------B FGGGG-GGGGF	No. 51-68 d Age: (2 - 2.5) years	H:h Cl da Hu da Ra - Ul d Fe de Ti da Fi de	H:g - J -
A:b 8 Fr dta Oc-Sq - Oc-Ba - Ptr - A:ke	A:j B---+---B B---- - ----B	No. 51-68 e Age: (6 - 9) months	H:h Cl da Hu da Ra da Ul a Fi da Ti da Fi da	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j B---+---B BBBEE-EEBBB	No. 51-68 f Age: (6 - 9) months	H:h Cl da Hu da Ra da Ul da Fe de Ti de Fi -	H:g - J -
A:b 8 Fr dta Oc-Sq - Oc-Ba - Ptr - A:ke -	A:j ------ + ------ BBB--- - ---BBB	No. 51-68 g Age: (6 - 9) months	H:h Cl da Hu da Ra - Ul - Fe da Ti - Fi -	H:g - J -
A:b 8 Fr da Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No. 51-68 h Age: (3 - 6) months	H:h Cl de Hu da Ra da Ul de Fe da Ti da Fi -	H:g - J -
A:b 8 Fr dta Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ABADD + DDABA ABADD - DDABA	No. 51-68 i Age: (3 - 6) months	H:h Cl da Hu de Ra da Ul de Fe de Ti da Fi da	H:g - J -
A:b 8 Fr dta Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ A---E- - -E---A	No. 51-68 j Age: (3 - 6) months	H:h Cl da Hu d Ra da Ul da Fe d Ti da Fi da	H:g - J -
A:b 8 Fr dta Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ AB--- - ---BA	No. 51-68 k Age: (3 - 6) months	H:h Cl da Hu da Ra - Ul da Fe da Ti - Fi de	H:g - J -
A: a: 5 b: 3Fc8 c: 5 d: 5 e: 000X000X+X000X00X / 00000000-00000000 f: 0-2 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 1-2 m: 5	B: a: - b: - c: - d: - e: - f: - C: a: - b: 4b c: 12 d: 23 e: 1 f: 3 g: 4ac h: 1 j: - H: a: 5 b: 2 c: 5 d: 3 e: 2 f: ♂ g: ♂15	D: a: - b: - c: - d: - e: + f: + g: - h: - j: + k: 13 l: - m: - Sex: ♂ No. 53 Age (25 - 30) yrs Ad.	E: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: - l: - m: - n: - o: - p: - q: - r: 1kapr1 s: - t: - u: - v: -	F: a: - b: 4ll c: 357 d: 3 e: 3 f: 0 g: 1 G: a: 5 b: 5 c: 3 d: 3b e: 1 f: 3 J: 2 K: a0, d2
A:b 2 Fr dta Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j BDBEE+EEBDB BDBEE-EEBDB	No. 55 b Age: (3 - 6) months	H:h Cl da Hu + Ra da Ul de Fe da Ti d Fi da	H:g - J -
A:b 27 Fr dta Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j ------ + ------ BDBEE-EEBDB	No. 58 Age: (3 - 6) months	H:h Cl da Hu da Ra da Ul de Fe de Ti da Fi d	H:g - J -
A:b 27 Fr dta Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j BD-EE+EE-DB BD-EE-EE-DB	No. 59 Age: (3 - 6) months	H:h Cl de Hu da Ra da Ul de Fe de Ti da Fi de	H:g - J -

A:h Fr Oc-Sq Oc-Ba Ptr A:ke:	A:j	No. 60 Age: (25 - 30) years Ad. Sex: ♀	H:h Cl de Hu de Ra de Ul de Fe de Ti de Fi de	H:g ♀ J: - K: a1, cd+e
A:h 2 Fr d+e Oc-Sq ! Oc-Ba ! Ptr de A:ke:	A:j ABBEE+EEBBA ABBEE-EEBBA	No. 61 Age: (0-3) months	H:h Cl de Hu de Ra de Ul de Fe de Ti de Fi de	H:g - J: -
f: g: h: ka: kb: kc: kd: ke: l: m:	H: a: 57 b: 26Ep c: 0-1 d: 1 e: 2-3 f: ♀ g: ♀24	Sex: ♀ No. 62 Age (50 - 60) yrs Mat.	p: q: r: s: t: u: v:	c: d: e: f: J: - K: a0-1, ce
A:h 8 Fr de Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j ------ + ------ ------ + ------ E-----------E GGGGG-GGGGG	No. 62-64 a Age: (4 - 5) years	H:h Cl - Hu + Ra de Ul + Fe de Ti de Fi de	H:g - J: -
A:h 8 Fr de Oc-Sq - Oc-Ba - Ptr - A:de	A:j GGGGG+GGGGG C-----+-----C C-----------C GGGGG-GGGGG	No. 62-64 b Age: (3 - 4) years	H:h Cl de Hu de Ra d Ul d Fe de Ti - Fi d	H:g - J: -
A:h 8 Fr de Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j FG-GG+GG-GF A-----+-----A A-----------A FG-GG-GG-GF	No. 62-64 c Age: (1.5 - 2) years	H:h Cl de Hu + Ra - Ul + Fe + Ti + Fi -	H:g - J: -
A:h 8 Fr de Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j EFFGG+GGFFE A-----------A EFFGG-GGFFE	No. 62-64 d Age: (1.5 - 2) years	H:h Cl de Hu de Ra + Ul + Fe de Ti de Fi d	H:g - J: -
A:h 8 Fr d+e Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j ------ + ------ CB-- + --BC	No. 62-64 e Age: (6 - 9) months	H:h Cl - Hu - Ra - Ul d Fe - Ti de Fi -	H:g - J: -
A:h 8 Fr d+e Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j ------ + ------ ------ + ------	No. 62-64 f Age: (0 - 3) months	H:h Cl de Hu de Ra de Ul de Fe de Ti de Fi de	H:g - J: -
A:h 8 Fr de? Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j ------ + ------ ------ + ------	No. 62-64 g Age: (0 - 3) months	H:h Cl - Hu de Ra - Ul - Fe de Ti d Fi -	H:g - J: -
A:h 8 Fr de Oc-Sq - Oc-Ba - Ptr - A:ke: -	A:j ------ + ------ ------ + ------	No. 62-64 h Age: (2 - 2.5) years	H:h Cl - Hu - Ra - Ul - Fe - Ti de Fi d	H:g - J: -
A:h Fr Oc-Sq Oc-Ba Ptr A:ke:	A:j ------ + ------ ------ + ------	No. 62-64 i Age: (3 - 6) months	H:h Cl - Hu - Ra - Ul - Fe + Ti + Fi -	H:g - J: -
A:h 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke:	A:j ------ + ------ ------ + ------	No. 62-64 j Age: (0 - 3) months	H:h Cl - Hu + Ra + Ul - Fe - Ti d Fi -	H:g - J: -

A: a: 145 b: 87 c: 1 d: - e: -------- + -------- / -------- - -------- f: - g: - h: - ka: 123- kb: 7 kc: 123- kd: 7 ke: 0 l: 2 m: 1-2	B: a: - b: - c: - d: 3 e: - f: - C: a: - b: - c: - d: - e: - f: 3 g: 24bd h: - j: - H: a: 145 b: 2 c: 1 d: 1 e: 2-3 f: ♀ g: ♀24	D: a: - b: 2 c: 1-2 d: - e: - f: - g: - h: - j: - k: - l: - m: - Sex: ♀ No. 66 Age (30 - 35) yrs Ad.	E: a: - b: - c: - d: - e: - f: 2 g: 3 h: 1b j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: b: c: d: e: f: J: 1 K: a0
A: a: 12458 b: 4SqZy ad c: 1-2 d: 3 e: o00X0XX0 + 0X0XX0Xo / o00XX0XX - XXXXX0Xo f: 0-1 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: 0-1 m: 1	B: a: o b: 2 c: 6 d: 1-2 e: 2-3 f: 1 C: a: o b: 35 c: 12 d: 145 e: 1 f: 1 g: 3bc h: 3 j: 3 H: a: 12458 b: 4 c: 1 d: 1 e: 2 f: - g: -	D: a: 234BrLa7 b: 1 c: 1 d: 35 e: 1 f: 1-2 g: 2 h: 2 j: 1-2 k: 13 l: 2 m: 2 Sex: ♀ No. 70 Age (14 - 16) yrs Juv.	E: a: - b: 45 c: 56 d: (2) e: 3 f: 1 g: 2 h: 3a j: 56 k: 0 l: (1) m: 2 n: (3) o: 1248bdf p: 3ad q: 2-3 r: 3hapri s: 2 t: 1 u: - v: -2	F: a: - b: 32a c: 567 d: 1 e: 3 f: 0-1 g: 1 G: a: 1-2 b: 1 c: 2 d: 3a e: - f: 3 J: - K: d1
A:b 8 Fr d+a Oc-Sq 1 Oc-Ba - Ptr da A:ke: M	A:j ------ + ------ ------ - ------	No. 72 b Age: (1,5 - 2) years	H:h Cl a Hu da Ra a Ul a Fe a Ti a Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq 1 Oc-Ba - Ptr - A:ke:	A:j ------ + ------ AB--- - ---BA	No. 72 c Age: (0 - 3) months	H:h Cl - Hu a Ra a Ul da Fe da Ti a Fi -	H:g - J: -
A:b 2 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke 1,5 cm (M) A: kd, La	A:j GGGGG+GGGGG E------+------E E------ - ------E GGGGG - GGGGG	No. 74 Age: (4 - 5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: ?
A:b 8 Fr ? Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGG+GGGGG +EE A---EE-EE---A GGGGG-GGGGG	No. 75 Age: (4 - 5) years	H:h Cl a Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K: a1
A:b 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j HH----+----HH EG------+------GE EG------------GE HH--------HH	No. 77 Age: (7 - 8) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: - K: a1
A:b 2 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j ------ + ------ ------ - ------	No. 78 Age: (0 - 3) months	H:h Cl d Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b Fc7HZ Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGG+GGGGG F----E+E----F F----E-E----F GGGGG-GGGGG	No. 81 Age: (5 - 6) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b 2Fc5 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j D+D D-D	No. 86 Age: (0 - 3) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke M	A:j GGG--+--GGG C------+------C GGG-----GGG C------------C	No. 88 a Age: (2 - 2,5) years	H:h Cl a Hu a Ra da Ul da Fe da Ti da Fi a	H:g - J: -

A:b 8 Fr da Oc-Sq 1 Oc-Ba 1 Ptr da A:ke 1	A:j FGGGG+GGGGF A------+------A A-------------A FGGGG-GGGGF	No. 88 b Age: (1,5 - 2) years	H:h Cl da Hu da Ra e Ul da Fe d Ti d Fi -	H:g - J: -
A: a: 174 b: 47 c: 1-2 d: 7 e: XX0XXXXX+0XX000XX XX00XXXX-XXXXX0XX f: 3 g: 2 h: 0 ka: 12-34 kb: 12-344 kc: 123- kd: 0 ke: 0 l: 2 m: 1-2	B: a: - b: 4 c: - d: 1 e: 1 f: 1 C: a: - b: 2326 c: 12 d: 2-3 e: 1 f: 1 g: 3bc h: - j: - H: a: 174 b: 7 c: 1 d: 1-2 e: 2-3 f: ♀ g: ♀24	D: a: 24BrLa79 b: 0-1 c: 0-1 d: 35 e: - f: 0 g: 3 h: 0 j: - k: 3 l: - m: - Sex: ♀ No. 89 e Age (c. 50) yrs Mat.	E: a: - b: - c: - d: - e: - f: 0 g: - h: 3a j: - k: - l: - m: - n: - o: 12-368bdf p: (1) q: 1 r: (1-2h) s: 1 t: - u: (1) v: 24	F: a: - b: - c: 2328 d: 2 e: 2 f: 0 g: 1 G: a: 1-2 b: 1-2 c: 3 d: 2a e: - f: 5 J: -
A:b 6 Fr d+e Oc-Sq 1 Oc-Ba 1 Ptr da A:ke M	A:j JJ---+---JJ CG---F + F---GC CG---F - F---GC JJ--- - ---JJ	No. E 89 a Age: (7 - 8) years	H:h Cl du Hu de Ra da Ul du Fe da Ti de Fi d	H:g - J: -
A:b 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr de A:ke	A:j JJJ-J + J-JJJ BG------ + ------GB BG------ - ------GB JJJ-J - J-JJJ	No. E 89 b Age: (5 - 6) years	H:h Cl - Hu da Ra de Ul du Fe d Ti e Fi du	H:g - J: 1
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ + ------ BG----E - E----GB GG-------GG	No. E 89 c Age: (5 - 6) years	H:h Cl da Hu de Ra d Ul d Fe da Ti d Fi da	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j JJ--- + ---JJ BG---EF + FE---GB JJ--- - ---JJ BG---EF - FE---GB	No. E 89 d Age: (5 - 6) years	H:h Cl da Hu da Ra - Ul da Fe e Ti da Fi -	H:g - J: -
A:b 2 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGG + GGGGG BF----E + E----FB	No. E 89 e Age: (4 - 5) years	H:h Cl d Hu de Ra d Ul - Fe de Ti e Fi -	H:g - J: -
A:b 2 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ + ------ G------ - ------G EE--- - ---EE	No. E 89 f Age: (3 - 4) years	H:h Cl e Hu de Ra da Ul da Fe da Ti de Fi d	H:g - J: -
A:b 3 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GGGGG+GGGGG B------+------B GGGGG-GGGGG B------------B	No. E 89 g Age: (2,5 - 3) years	H:h Cl - Hu - Ra d Ul d Fe da Ti da Fi da	H:g - J: -
A:b 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke M	A:j FGGGG+GGGGF A------+------A A-------------A FGGGG-GGGGF	No. E 89 h Age: (2 - 2,5) years	H:h Cl de Hu de Ra e Ul de Fe da Ti de Fi d	H:g - J: -
A:b 2 Fr d+e Oc-Sq 1 Oc-Ba 1 Ptr - A:ke	A:j FGGGG+GGGGF A----C+C----A FGGGG-GGGGF A----C-C----A	No. E 89 i Age: (2 - 2,5) years	H:h Cl - Hu de Ra da Ul d Fe da Ti e Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j FGFGG+GGFGF ------ + ------ ------ - ------ ------ - ------	No. E 89 j Age: (1,5 - 2) years	H:h Cl - Hu d Ra da Ul d Fe - Ti - Fi da	H:g - J: -

A:h 2 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B-- + --B BD--- + ---DB	No. **E 89 k** Age: (6 – 9) months	H:h Cl da Hu da Ra d Ul da Fe da Ti a Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ ------ + ------	No. **E 89 l** Age: (6 – 9) months	H:h Cl a Hu – Ra – Ul da Fe d Ti a Fi d	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ B--- + ---B	No. **E 89 m** Age: (3 – 6) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g – J –
A:h 2 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B--- + ---B ------ + ------	No. **E 89 n** Age: (3 – 6) months	H:h Cl da Hu da Ra da Ul da Fe da Ti a Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ ------ + ------	No. **E 89 o** Age: (3 – 6) months	H:h Cl – Hu d Ra – Ul – Fe da Ti – Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B-BEE+EEB-B	No. **E 89 p** Age: (3 – 6) months	H:h Cl a Hu da Ra – Ul – Fe da Ti da Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ B--- + ---B	No. **E 89 q** Age: (3 – 6) months	H:h Cl – Hu da Ra a Ul – Fe da Ti da Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ ------ + ------	No. **E 89 r** Age: (3 – 6) months	H:h Cl a Hu da Ra d Ul – Fe a Ti a Fi –	H:g – J –
A:h 8 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j B-E– + –E-B ------ + ------	No. **E 89 s** Age: (3 – 6) months	H:h Cl – Hu a Ra a Ul da Fe a Ti a Fi d	H:g – J –
A:h 2 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ A-B---B-A	No. **E 89 t** Age: (0 – 3) months	H:h Cl da Hu da Ra d Ul da Fe a Ti da Fi d	H:g – J –
A:h 2 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ ------ + ------	No. **E 89 u** Age: (Foetus?)	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g – J –
A:h 2 Fr – Oc-Sq – Oc-Ba – Ptr – A:ke	A:j ------ + ------ ------ + ------	No. **E 89 v** Age: (Foetus?)	H:h Cl – Hud Ra – Ul – Fe da Ti – Fi –	H:g – J –

A: a: 157 b: 4Fc8 c: 1 d: 2 e: ?AAAAAAX+IIXXXXKO f: (3) g: 7 h: - ka: 12-34 kb: 123-44 kc: 1234 kd: 0 ke: 0 l: 1 m: 1	B: a: - b: 4(-2) c: - d: 2 e: 2 f: 1 C: a: - b: 126 c: 12 d: 13 e: 1 f: 0-1 g: 3ac h: 3 j: 2 H: a: 157 b: 2 c: 1 d: 1 e: 1-2 f: ♀ g: ♀24	D: a: 237 b: (1) c: 1 d: 128 e: 1 f: (0) g: (3) h: - j: - k: 13 l: 2 m: 2 Sex: ♀ No. Div. E Age (40 - 50) yrs Mat.	E: a: - b: - c: 196 d: 2 e: 3 f: 1 g: 2 h: 3b j: - k: 1-2 l: - m: - n: - o: 1368bdf p: (1ad) q: (1-2) r: - s: - t: - u: - v: -	F: a: - b: (2)(3) c: - d: - e: - f: 0 g: - G: a: 1 b: 1 c: - d: - e: - f: - J: -
A:h: 8 Fr: ds Oc-Sq: 1 Oc-Ba: 1 Ptr: ds A:ke: -	A:j: GGGGG+GGGGG E----D+D----E GGGGG-GGGGG E----D-D----E	Age: (3 - 4) years DivEa	H:h: Cl - Hu ds Ra + Ul - Fe d Ti ds Fi -	H:g: - J: -
A:h: 8 Fr: + Oc-Sq: + Oc-Ba: - Ptr: - A:ke: -	A:j: F-GG +GG-GF B----B+B----B F-GG-GG-GF B----B-B----B	Age: (2 - 2,5) years Div Eb	H:h: Cl - Hu ds Ra d Ul - Fe + Ti ds Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ ------ + ------ A------ + ------A FF---- + ----FF	Age: (1,5 - 2) years DivEc	H:h: Cl - Hu d Ra - Ul d Fe ds Ti ds Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ B---- + ----B	Age: (3/4 - 1) year DivEd	H:h: Cl - Hu d Ra d Ul d Fe ds Ti ds Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ DF---- + ----FD	Age: (1 - 1,5) year DivEe	H:h: Cl - Hu d Ra d Ul - Fe ds Ti d Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ DF---- + ----FD	Age: (1 - 1,5) year DivEf	H:h: Cl - Hu - Ra - Ul d Fe d Ti ds Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ B---- + ----B	Age: (3/4 - 1) year DivEg	H:h: Cl - Hu ds Ra - Ul - Fe ds Ti - Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ ------ + ------	Age: (6 - 9) months Div Eh	H:h: Cl - Hu ds Ra + Ul d Fe ds Ti d Fi -	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ B-D---- + ----D-B	Age: (6 - 9) months DivEi	H:h: Cl - Hu - Ra ds Ul - Fe ds Ti ds Fi -	H:g: - J: 1
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ BDB---- + ----BDB	Age: (6 - 9) months DivEj	H:h: Cl - Hu ds Ra ds Ul ds Fe ds Ti ds Fi +	H:g: - J: -
A:h: 8 Fr: - Oc-Sq: - Oc-Ba: - Ptr: - A:ke: -	A:j: ------ + ------ B---- + ----B	Age: (6 - 9) months DivEk	H:h: Cl ds Hu ds Ra d Ul ds Fe ds Ti - Fi -	H:g: - J: -

A:b 8 Fr + Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (6 - 9) months DivEl	H:h Cl - Hu da Ra - Ul - Fr - Ti d Fi -	H:g - J -
A:b 8 Fr - Oc-Sq + Oc-Ba + Ptr - A:ke	A:j ------ + ------ BD-EE + EE-DB	Age: (3 - 6) months DivEm	H:h Cl a Hu da Ra d Ul da Fe da Ti a Fi da	H:g + J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ a ------ ------ a ------	Age: (6 - 9) months DivEn	H:h Cl - Hu da Ra - Ul - Fr - Ti a Fi da	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ B---- - ----B	Age: (6 - 9) months DivEo	H:h Cl a Hu da Ra da Ul d Fe a Ti a Fi -	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (6 - 9) months DivEp	H:h Cl - Hu da Ra da Ul a Fr - Ti a Fi a	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ a ------	Age: (6 - 9) months DivEq	H:h Cl - Hu a Ra - Ul - Fr da Ti - Fi -	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (3 - 6) months DivEr	H:h Cl a Hu da Ra a Ul - Fr da Ti da Fi -	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ BB-BB	Age: (0 - 3) months DivEs	H:h Cl - Hu a Ra da Ul a Fr - Ti - Fi d	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (6 - 9) months DivEt	H:h Cl - Hu - Ra a Ul d Fr - Ti - Fi -	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (6 - 9) months DivEu	H:h Cl - Hu d Ra - Ul d Fr da Ti a Fi -	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ CAKE - EEAC	Age: (3 - 6) months DivEv	H:h Cl - Hu da Ra d Ul - Fr a Ti da Fi d	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	Age: (Foetus) DivEy	H:h Cl a Hu da Ra - Ul d Fr da Ti - Fi -	H:g - J -

A:b 2Fr Fr d+s Oc-Sq ! Oc-Ba ! Ptr da A:ke -	A:j ABAEF+FEABA ABAEF-FEABA	No. 93 c Age: (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr da A:ke -	A:j ------- + ------- ------- - -------	No. 93 d Age: (6 - 9) months	H:h Cl da Hu d Ra da Ul da Fe da Ti d Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr * A:ke -	A:j ------- + ------- ------- - -------	No. 93 e Age: (6 - 9) months	H:h Cl - Hu - Ra d Ul da Fe da Ti da Fi da	H:g - J: -
A:b 7 Fr d+s Oc-Sq ! Oc-Ba ! Ptr d+s A:ke -	A:j GHHHHHHHH+HHHHHHHHG GHHHHHHHH-HHHHHHHHG	No. 94 b Age: (16 - 18) years Juv Sex: ♀	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi -	H:g J: K:a0
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr * A:ke -	A:j ------- + ------- ------- - -------	No. 94 c Age: (> 60) years Sex: ♀	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g ♀ J: fragm. K: c(da)
A:b 6 Fr d+s Oc-Sq ! Oc-Ba ! Ptr da A:ke 28+ 26 mm	A:j FGGGG+GGGGF B-------+------B B-------------B FGGGG-GGGGF	No. 97 c Age: (2 - 2,5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b Fr d+s Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- + ------- ------- - -------	No. 97 d Age: (0 - 3) months	H:h Cl - Hu a Ra - Ul - Fe d Ti - Fi -	H:g - J: -
A:b Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke M?	A:j FGFGG+GGFGF B----B+B----B B----B-B----B FGFGG-GGFGF	No. 99 b Age: (2 - 2,5) years	H:h Cl da Hu da Ra da Ul da Fe a Ti - Fi -	H:g - J: -
A:b 7 Fr d+s Oc-Sq ! Oc-Ba - Ptr da A:ke	A:j FDFGG + GGFDF B------ + ------B FDFGG - GGFDF B------ - ------B	No. 102 a Age: (1,5 - 2) years	H:h Cl da Hu da Ra - Ul da Fe da Ti da Fi da	H:g - J: -
A:b Fr - Oc-Sq - Oc-Ba - Ptr A:ke	A:j ------- + ------- ------- - -------	No. 102 b Age: (1 - 1,5) years	H:h Cl da Hu - Ra a Ul - Fe da Ti da Fi da	H:g - J: -
A:b Fr a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- + ------- ------- - -------	No. 102 c Age: (0 - 3) months	H:h Cl - Hu a Ra - Ul a Fe da Ti d Fi da	H:g - J: -
A:b Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- + ------- ------- - -------	No. 102 d Age: (0 - 3) months	H:h Cl - Hu a Ra da Ul a Fe a Ti d Fi d	H:g - J: -
A:b 7 Fr d+s Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j FG--- + ---GF FG--- - ---GF	No. 107 Age: (3 - 4) years	H:h Cl d Hu - Ra da Ul da Fe da Ti da Fi da	H:g - J: -

A:h 7 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j FGFGG + GGFGF B------+------B FGFGG - GGFGF B------ - ------B	No. **109 b** Age: (1,5 - 2) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -
A:h 7 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j EFEGG + GGEFE A------+------A EFEGG - GGEFE A------ - ------A	No. **110** Age: (1 - 1,5) year	H:h Cl da Hu d Ra da Ul d Fe d Ti - Fi -	H:g - J !
A:h 8e Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke 1,5 cm (M) A:kd ! behind Br, +La	A:j J-J---+---J-J EG---GG+GG---GE EG---GG-GG---GE	No. **112** Age: (8 - 9) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J - K: a0-1, d1-2
A:h 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j EFEFF+FFEFE ------+------ ------ - ------ EFEFF-FFEFE	No. **113** Age: (6 - 9) months	H:h Cl da Hu a Ra - Ul a Fe a Ti - Fi -	H:g - J -
A:h 8 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke M	A:j J----+----J FG-GGGG+GGGG-GF GGFGGGG-GGGGFGG J---- - ----J	No. **114** Age: (10 - 11) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J - K: a0, b(a), d1-2
A:h 8 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG B----E+E----B B----E-E----B GGGGG-GGGGG	No. **115 b** Age: (3 - 4) years	H:h Cl da Hu a Ra da Ul da Fe da Ti - Fi -	H:g - J -
A:h 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j B-B---+---B-B ------ - ------	No. **116 b** Age: (3 - 6) months	H:h Cl d Hu da Ra a Ul - Fe da Ti da Fi d	H:g - J -
A:h Z Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG B------+------B B------ - ------B GGGGG-GGGGG	No. **118** Age: (2 - 2,5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -
A:h 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j BEBEE+EEBEB ------+------ ------ - ------ BEBEE-EEBEB	No. **119** Age: (3 - 6) months	H:h Cl da Hu da Ra da Ul d Fe d Ti da Fi -	H:g - J -
A:h 87 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j FGGGG+GGGGF B------+------B FGGGG-GGGGF B------ - ------B	No. **123** Age: (2,5 - 3) years	H:h Cl da Hu da Ra da Ul a Fe da Ti da Fi da	H:g - J -
A:h 87 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j DEEFF+FFEED ------+------ ------ - ------ DEEFF - FFEED	No. **124** Age: (6 - 9) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -
A:h 87 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j ABAEE+EEABA ------+------ ------ - ------ ABAEE - EEABA	No. **125** Age: (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -
A:h 87 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j B+B ------+------ ------ - ------ A------ - ------A	No. **126** Age: (6 - 9) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J -

A:h 9 Fr d+a Oc-Sq I Oc-Ba I Ptr da A:ke	A:j GGGGG+GGGGG E----E+E----E E----E-E----E GGGGG-GGGGG	No. 130 Age (4 - 5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti - Fi -	H:g - J: - K: d 1-2
A:h 8 Fr d+a Oc-Sq I Oc-Ba I Ptr a A:ke	A:j ------ + ------ ------ - ------	No. 132 a Age (3 - 6) months	H:h Cl - Hu da Ra a Ul d Fe da Ti - Fi -	H:g - J: -
A:h 8 Fr - Oc-Sq I Oc-Ba - Ptr a A:ke	A:j ------ + ------ ------ - ------	No. 132 b Age (2.5 - 3) years	H:h Cl da Hu da Ra d Ul a Fe a Ti da Fi -	H:g - J: -
A: a: 15 b: 8Fc7 c: C d: (2) e: --------+-------- 0000XXX-X000000 f: 1-2 g: 0-1 h: 0-1 ka: 123- kb: 1-234+ kc: 123- kd: 0 ke: M l: 1 m: 2	B: a: - b: 4 c: - d: 2 e: 2 f: 1 C: a: - b: 2326 c: 356 d: 13 e: 1 f: 1 g: 3bc h: - j: 1 H: a: 15 b: 7(2) c: 3 d: 3 e: 2-3 f: ♂ g: ♂13	D: a: o4BrLa6 b: 2-3 c: 2-3 d: 123 e: 1 f: 1 g: - h: - j: - k: 3 l: - m: 1 Sex: ♂ No. 133 Age (35 - 40) yrs Ad.	E: a: - b: - c: 315 d: - e: 3 f: 2-3 g: 2 h: 2b j: - k: (2) l: - m: - n: - o: - p: - q: 3 r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 3 b: 2-3 c: 2 d: 2a e: 1 f: 4-5 J: - K: a4
A:h 8 Fr da Oc-Sq I Oc-Ba I Ptr da A:ke	A:j J----+----J FGFGGGG + GGGGFGF JJ---- - ----JJ FGF-FGG-GGF-FGF	No. 136 b Age (8 - 9) years	H:h Cl da Hu da Ra da Ul da Fe da Ti d Fi da	H:g - J: - F: I) K: d1-2
A:h 8 Fr d Oc-Sq I Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No. 136 c Age (3 - 6) months	H:h Cl - Hu da Ra d Ul a Fe - Ti d Fi -	H:g - J: -
A:h Fe Fr d+a Oc-Sq I Oc-Ba I Ptr da A:ke	A:j GGGGG+GGGGG E-----+-----E E----- -----E GGGGG-GGGGG	No. 141 Age (5 - 6) years	H:h Cl da Hu a Ra da Ul a Fe d Ti - Fi -	H:g - J: -
A:h 8 Fr d+a Oc-Sq I Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No. 145 b Age (0 - 3) months	H:h Cl da Hu da Ra d Ul - Fe d Ti - Fi -	H:g - J: -
A:h 8 Fr a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No. 145 c Age (3 - 6) months	H:h Cl - Hu a Ra a Ul a Fe d Ti - Fi -	H:g - J: -
A:h 8 Fr da Oc-Sq I Oc-Ba I Ptr da A:ke	A:j GGGGG+GGGGG C----E+E----C GGGGG-GGGGG C----E-E----C	No. 147 b Age (3 - 4) years	H:h Cl - Hu da Ra da Ul a Fe d Ti a Fi da	H:g - J: -
A:h 8 Fr - Oc-Sq - Oc-Ba I Ptr a A:ke	A:j AB---- + ----BA ------ + ------ ------ - ------ BA---- - ----BA	No. 148 Age (3 - 6) months	H:h Cl Hu Ra Ul Fe Ti Fi	H:g J:
A:h 7 Fr d+a Oc-Sq I Oc-Ba I Ptr da A:ke	A:j EFEFF+FFEFE ------ + ------ ------ - ------ EFEFF-FFEFE	No. 149 Age (3/4 - 1) year	H:h Cl da Hu a Ra da Ul da Fe da Ti da Fi -	H:g - J: -

A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke M	A:j EFFGG+GGFFE A------+------A A----B-B----A EFFGG-GGFFE	No **150** Age: (2 - 2.5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J: -
A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG D------+------D D------ - ------D GGGGG-GGGGG	No **151** Age: (2.5 - 3) years	H:h Cl Hu Ra Ul Fe Ti Fi	H:g J:
A:b 7 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j ABAKE+EEABA ------ + ------ ------ - ------ ABAKE-EEABA	No **152** Age: (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fe a Ti - Fi d	H:g - J: -
A: a: 125 b: 4578 c: 2 d: ? e: 00000000+00000000 (R) Y0000000-000X0007 f: 1-2 g: 0-1 h: 0-1 ka: 12-3+7 kb: 1234+ kc: 123- kd: Sa 1[a)] ke: 0 l: 1 m: 1-2 a) Br	B: a: - b: - c: 4 d: 0-1 e: 0-1 f: (1) C: a: o b: - c: 2 d: - e: 1 f: 5 g: 13bd h: - j: - H: a: 125 b: 24Fed c: 1 d: 1-2 e: 3 f: ♂ g: ♂13	D: a: 24La6 b: 2-3 c: 2 d: 125 e: - f: - g: - h: - j: - k: 3 l: - m: - Sex: ♂ No: **155** Age (30 - 35) yrs Ad.	E: a: o b: - c: 3 d: - e: - f: 2 g: 0-1 h: 2a j: - k: - l: m: - n: - o: - p: - q: 1-2 r: - s: 2-3 t: - u: (1) v: (12)	F: a: o b: - c: 23-357 d: - e: - f: 0 g: 7 G: a: 2-5 b: 2-5 c: 4 d: 2a e: 1 f: 2(-3) J: 3 K: a4, d1-2, e6
A:b 7 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j EFEFF+FFEFE ------ + ------ ------ - ------ EFEFF-FFEFE	No **157 c** Age: (6 - 9) months	H:h Cl - Hu - Ra - Ul - Fe da Ti - Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr - A:ke	A:j ------ + ------ ------ - ------	No **157 d** Age: (1 - 1.5) years	H:h Cl a Hu da Ra da Ul da Fe d Ti - Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No **157 e** Age: (6 - 9) months	H:h Cl - Hu - Ra - Ul - Fe a Ti - Fi -	H:g - J: -
A:b Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------ + ------ ------ - ------	No **157 f** Age: (0 - 3) months	H:h Cl - Hu - Ra - Ul - Fe a Ti - Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j FGGGG+GGGGF B----G+G----B B----G-G----B FGGGG-GGGGF	No **161** Age: (2 - 2.5) years	H:h Cl da Hu da Ra da Ul d Fe da Ti da Fi da	H:g - J: - K: d1-2
A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke M	A:j GGGGG+GGGGG BG------+------GB GGGGG-GGGGG BG------------GB	No **163 a** Age: (7 - 8) years	H:h Cl - Hu da Ra da Ul a Fe da Ti da Fi da	H:g - J: - F: f2
A:b 8 Fr d+a Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j ------ + ------ CEBFF-FFBEC	No **163 b** Age: (6 - 9) months	H:h Cl a Hu - Ra - Ul - Fe - Ti - Fi -	H:g - J: -
A:b Fr - Oc-Sq - Oc-Ba - Ptr - A:ke -	A:j Length GG-MT 19 mm	No **167 d** Age: Foetus	H:h Cl - Hu - Ra - Ul - Fe - Ti - Fi -	H:g - J: -

A:h 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j ABAEE+EEABA ABAEE-EEABA	No. 168 Age (1 - 6) months	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 2 -
A:h 8 Fr d+a Oc-Sq 1 Oc-Ba - Ptr da A:ke 1 cm (M) A: kd c.u. ñ	A:j GGGGG+GGGGG B-----E+E-----B GGGGG-GGGGG B-------------B	No. 170 Age (2,5 - 3) years	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fr da	H:g - 2 - F:f!
A:h 7 Fr da Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j GFGGG+GGGFG A------+------A A-------------A GFGGG-GGGFG	No. 173 Age (1 - 1,5) year	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 3 -
A:h 7 Fr d+a Oc-Sq - Oc-Ba - Ptr da A:ke	A:j GGFGG+GGFGG AD------+------DA AD-------------DA GGFGG-GGFGG	No. 174 a Age (2 - 2,5) years	H:h Cl da Hu da Ra - Ul d Fr da Ti d Fi -	H:g - 2 -
A:h 8 Fr - Oc-Sq - Oc-Ba - Ptr A:ke	A:j ------ + ------ ------ - ------	No. 174 b Age (0 - 3) months	H:h Cl - Hu - Ra - Ul - Fr - Ti d Fi -	H:g - 1 -
A:h 8 Fr -a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j BCBEE+EEBCB ------ + ------ ------ - ------ BCBEE-EEBCB	No. 179 Age (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 2 -
A:h 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j GGGGG+GGGGG EG------+------GE ------ - ------ ------ - ------	No. 180 Age (6 - 7) years	H:h Cl da Hu a Ra da Ul da Fr da Ti da Fi da	H:g - 3 -
A:h 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j ADBEE+EEDBA ADBEE-EEBDA	No. 184 Age (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 2 -
A:h 8 Fr da Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j CEBFF+FFBEC CEBFF-FFBEC	No. 185 Age (3/4 - 1) year	H:h Cl a Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 3 -
A:h 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j ACAEE+EEACA ACAEE-EEACA	No. 186 Age (3 - 6) months	H:h Cl d Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 2 -
A:h 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A:ke	A:j ACAEE+EEACA ACAEE-EEACA	No. 187 Age (3 - 6) months	H:h Cl da Hu da Ra da Ul da Fr da Ti da Fi da	H:g - 2 -
A: a: 15 b: 67 c: 1-2 d: (3) e: 00XXXXXX+0X000000 0X0XX0XX-XXXXXX00 K K f: 1-3 g: 2-3 h: 0-1 ka: 125- kb: 1-234+ kc: 125- kd: La ke: M l: 2 m: 2	B: a: n b: (4) c: 6 d: - e: 2 f: - C: a: n b: (46) c: 256 d: - e: 1 f: g: 3bc h: - j: - H: a: 15 b: 6PrEp c: 2 d: 1 e: 5 f: ♀ g: ♀ 24	D: a: 4BrLa79 b: - c: - d: - e: - f: - g: - h: - j: - k: 13 l: - m: - Sex: ♀ No. 188 Age (40 - 50) yrs Mat.	E: a: - b: - c: (56) d: - e: - f: - g: - h: - j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 2 b: 1-2 c: 1 d: 2a e: 1 f: 3-4 J: - K: a4, d+l

A:h 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j GGGG + GGGG B + B ------ + ------ ------ + ------	No. **191 a** Age: (2,5 - 3) years	H:h Cl - Hu - Ra - Ul da Fe da Ti da Fi d	H:g - 2 -
A:h 8 Fr dta Oc-Sq I Oc-Ba I Ptr da A:ke	A:j AA-EE+EE-AA AA-EE-EE-AA	No. **192** Age: (0 - 3) months	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - 2 -
A:h 8 Fr dta Oc-Sq I Oc-Ba I Ptr da A:ke	A:j BE--- + ---EB BE--- - ---EB	No. **193** Age: (0 - 3) months	H:h Cl da Hu d Ra da Ul d Fe da Ti d Fi d	H:g - 2 -
A:h 7 Fr da Oc-Sq I Oc-Ba I Ptr da A:ke M	A:j GGGGG+GGGGG E----E+E----E E----E-E----E GGGGG-GGGGG	No. **195 b** Age: (4 - 5)years	H:h Cl - Hu d Ra d Ul e Fe da Ti d Fi e	H:g+ - 2 -
A:h 8 Fr dta Oc-Sq - Oc-Ba - Ptr da A:ke	A:j ------ + ------ ------ + ------ ------ - ------ ------ - ------	No. **196** Age: (3 - 6) months	H:h Cl e Hu da Ra de Ul - Fe - Ti - Fi -	H:g - 2 -
A:h 7 Fr dta Oc-Sq Oc-Ba Ptr da A:ke	A:j CE-FF+FF-EC CE-FF-FF-EC	No. **197** Age: (3/4 - 1) year	H:h Cl da Hu da Ra da Ul da Fe da Ti de Fi d	H:g - 2 -
A:h 8 Fr - Oc-Sq I Oc-Ba I Ptr da A:ke	A:j ------ + ------ ------ + ------ ------ - ------ ------ - ------	No. **198** Age: (2 - 2,5) years	H:h Cl da Hu da Ra da Ul da Fe da Ti d Fi da	H:g - 2 -
A:h 2 Fr dta Oc-Sq I Oc-Ba I Ptr da A:ke	A:j GGGGG+GGGGG CF-----+-----FC CF-----------FC GGGGG-GGGGG	No. **200 b** Age: (6 - 7) years	H:h Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - 2 -
A: a: 145 b: 3Frd4Fe6 c: 1 d: (3) K R = o00X0000+0000000o / 0000000-X000000 R f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: La3 ke: 0 l: 3 m: 2	B: a: o b: 4 c: 48ba d: 3 e: 1-2 f: 1 C: a: o b: 35 c: 246 d: 1-23 e: 1 f: 1 g: 246d h: - j: - H: a: 145 b: 46EpPe c: 1 d: 1 e: - f: - g: ♂13	D: a: 2 b: (1) c: 1 d: 1234 e: 1 f: - g: - h: - j: - k: 2 l: - m: - Sex: ♂ No. **203** Age (18 - 20) yrs Juv.	E: a: o b: 45 c: (256) d: - e: - f: 1 g: 1-2 h: 2a j: (56) k: 0 l: - m: - n: - o: 034-58bdf p: - q: - r: - s: (1) t: (3) u: - v: -	F: a: o b: - c: (235) d: - e: - f: - g: 1 G: a: 2 b: 1-2 c: 2-3 d: 3a-b e: - f: 3 J: 2 K: a3+4, d1, e6
A:h 8 Fr - Oc-Sq - Oc-Ba I Ptr da A:ke	A:j GGGGG+GGGGG C------+------C C-------------C GGGGG-GGGGG	No. **204** Age: (3 - 4) years	H:h Cl da Hu e Ra e Ul e Fe e Ti da Fi -	H:g - 2 -
A: a: 1245 b: 7 c: 1-2 d: 7 = 00000X0X+XXX0000X / X0000000-0X0X000X f: 0-1 g: 0 h: 0-1 ka: 123- kb: 1234- kc: 123- kd: Sa4 ke: 0 l: 2 m: 1-2	B: a: o b: (4) c: 4 d: 3 e: 1-2 f: 1 C: a: o b: 35 c: 12 d: - e: 1 f: 1-2 g: (4) h: - j: - H: a: 1245 b: 4Pe c: 2 d: 3 e: 1 f: ♂ g: ♂13	D: a: 279 b: (3) c: 3 d: 4 e: - f: - g: - h: (2) j: - k: 13 l: (1) m: (1) Sex: ♂ No. **205a** Age (18 - 20) yrs Juv.	E: a: o b: - c: - d: - e: - f: 2 g: 2-3 h: 2a j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: (237) c: - d: - e: - f: - g: 1 G: a: 2 b: 2 c: 3 d: 2-3a e: 1 f: 3 J: - K: a4

A: a: 147 b: 4Fc9Mn c: d: e: ??XX0XXX+II0X0II? (A, T, A above) ---------- ? ---------- f: 3 g: - h: - ka: 123+ kb: 1234+ kc: 123+ kd: 9 ke: 0 l: 3 m: 2-3	B: a: - b: 4(2) c: - d: 1 e: 3 f: 2 C: a: - b: 146 c: 2-356 d: 23 e: 1 f: 1 g: 32ac h: 1 j: 1 H: a: 147 b: 4HuIIIPe c: 3 d: 3 e: 2 f: ♂ g: ♂13	D: a: 24La5 b: 3 c: 3 d: 14 e: 1 f: - g: - h: - j: - k: 13 l: 1 m: 1 Sex: ♂ No. **205 b** Age (40 - 50) yrs Mat.	E: a: - b: - c: 516 d: 2 e: 3 f: 3 g: 2 h: 2a j: - k: - l: - m: - n: - o: - p: - q: 2-3 r: - s: - t: - u: 2b v: 135	F: a: - b: 14eo c: (567) d: - e: - f: 7 g: 0 G: a: - b: - c: - d: - e: - f: - J: - K: e6
A: a: 47 b: 78 c: 2-3 d: - e: ---------?--------- 00000000X - X0000000 (A A A below) f: 3 g: 2-3 h: (0-1) ka: 123+ kb: 1234+ kc: 123+ kd: 7 ke: M l: 1 m: 2	B: a: - b: - c: - d: (2) e: - f: - C: a: - b: 35 c: - d: 1 e: 1 f: - g: 3bd h: - j: - H: a: 47 b: 6 c: 1 d: 2-3 e: 1 f: ♂ g: ♂13	D: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: - l: - m: - Sex: ♂ No. **205 c** Age (> 60) yrs Sen.	E: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 2 b: 2 c: 3 d: 2a e: 1 f: 3 J: 1 K: ce
A: a: 147 b: 3Br4Fc78 c: 1-2 d: (3) e: ?IIII XII+II[-----? (A above) X000XXXX-XXXXXI0X (A below) f: 3 g: 3 h: 3 ka: 123+ kb: 1234+ kc: 123+ kd: La ke: 0 l: 3 m: 2-3	B: a: u b: 4 c: 4 d: 3 e: 1 f: (2) C: a: - b: - c: 12 d: (13) e: 1 f: 2-3 g: - h: - j: - H: a: 147 b: 46 c: 2 d: 2 e: 1 f: ♀ g: ♀	D: a: 1679 b: - c: - d: 25 e: - f: - g: - h: - j: - k: 3 l: - m: - Sex: ♀ No. **206** Age (> 60) yrs Sen.	E: a: - b: - c: 56 d: - e: (3) f: - g: 3 h: 3b j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 1 b: 1-2 c: 3 d: 1-2a e: (1) f: 3-4 J: -
A: a: 57 b: 4578 c: 2 d: - e: 000000XX+XX000000 a0000X00 - 0000000a f: 0 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 0 ke: 0 l: - m: (2)	B: a: - b: - c: - d: - e: - f: - C: a: - b: - c: - d: - e: - f: 1 g: 3bc h: - j: - H: a: 57 b: 6 c: 2 d: 2 e: - f: ♂ g: ♂(13)	D: a: 4BrLa589 b: - c: - d: 125 e: 1 f: - g: - h: - j: - k: 3 l: - m: - Sex: ♂ No. **207** Age (16 - 18) yrs Juv.	E: a: - b: - c: - d: - e: - f: - g: - h: - j: - k: - l: - m: - n: - o: - p: - q: - r: - s: - t: - u: - v: -	F: a: - b: - c: - d: - e: - f: - g: - G: a: 1 b: 1 c: 3 d: 1a e: (1) f: 3 J: -
A: a: 125 b: 84Fc c: 2-3 d: (3) e: 00X0000X+00000000 000000X0 - 0000000X f: 0 g: 0 h: 0 ka: 123- kb: 1234- kc: 123- kd: 1234- ke: 0 l: 3 m: 3	B: a: u b: 6 c: 6 d: 1-2 e: 1 f: (1) C: a: u b: 35 c: 346 d: (13) e: 1 f: 1-2 g: 24bc h: - j: - H: a: 125 b: 2 c: 3 d: 3 e: 1-2 f: ♂ g: ♂13	D: a: 24La679 b: 1 c: 1 d: 25 e: (1) f: - g: - h: 3 j: - k: 3 l: - m: - Sex: ♂ No. **208** Age (16 - 18) yrs Juv.	E: a: - b: - c: 56 d: 1 e: 3 f: 1 g: 1 h: 3a j: - k: - l: - m: - n: - o: - p: - q: 2 r: 1ba s: - t: (3) u: - v: -	F: a: - b: a c: 2325 d: - e: - f: - g: 1 G: a: 3 b: 3 c: 3 d: 2a-b e: 1 f: 3 J: - K: a0
A.h: 8 Fr d+a Oc-Sq 1 Oc-Ba - Ptr da A ke	A.j ------ ? ------ ------ ? ------ ------ ? ------ ------ ? ------	No. **209** Age (0 - 3) months	H.h: Cl de Hc de Ra de Ul de Fe de Ti de Fi de	H.g - J -
A.h: 8 Fr d+a Oc-Sq 1 Oc-Ba 1 Ptr da A ke	A.j: ??---? ---?? FG---FF+FF---GF FG-FFGG-GIFF GF -------- ? --------	No. **210 a** Age (9 - 10) years	H.h: Cl- Hc de Ra - Ul- Fe - Ti - Fi-	H.g - J -

A:b 8 Fr dra Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j ------ + ------ ------ + ------ BF------ + ------FB GGGGG-GGGGG	No. 210 b Age (5 - 6) years	H:b Cl - Hu - Ra - Ul - Fe - Ti - Fi -	H:g - J -
A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke M	A:j + + CFG-FFGG+GGFF-GFG DGGFFGGG-GGGFFGGD	No. 212 Age (13 - 14) years	H:b Cl da Hu da Ra da Ul d Fe da Ti da Fi da	H:g - J - K: a0, d2
A:b 7 Fr dra Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG AF-----+-----FA AF-----------FA GGGGG-GGGGG	No. 214 Age (5 - 6) years	H:b Cl dr Hu d Ra - Ul - Fe da Ti d Fi -	H:g - J - K:a0
A:b 8 Fr dra Oc-Sq - Oc-Ba - Ptr - A:ke	A:j E-EE+EE-E ------+------ ----------- E-EE - EE-E	No. 215 Age (3 - 6) months	H:b Cl da Hu - Ra - Ul - Fe - Ti - Fi -	H:g - J -
A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr de A:ke M	A:j ------+------ ?FGGGGGG+GGGGGGF? ?FGGGGGG-GGGGGGF?	No. 216 Age (13 - 14) years Sex: ♂ (?)	H:b Cl da Hu da Ra da Ul da Fe da Ti da Fi da	H:g - J - K:a0, d2
A:b 7 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGGG+GGGGG B----- + -----B B----- + -----B GGGGG-GGGGG	No. 217 Age (3 - 4) years	H:b Cl de Hu de Ra da Ul da Fe da Ti de Fi da	H:g - J -
A:b 7 Fr da Oc-Sq Oc-Ba ! Ptr da A:ke M	A:j GGGGG+GGGGG CF-----+-----FC CF----F-F----FC GGGGG-GGGGG	No. 220 Age (5 - 6) years	H:b Cl da Hu de Ra da Ul da Fe da Ti de Fi da	H:g - J - K:cdte
A:b 6 Fr da Oc-Sq ! Oc-Ba ! Ptr da A:ke	A:j GGGG-+-GGGG EG---FG+GF---GE GGGG- - -GGGG EG---FG-GF---GE	No. 221 Age (7 - 8) years	H:b Cl de Hu de Ra da Ul da Fe da Ti de Fi de	H:g - J - K:a0
A:b 8 Fr dra Oc-Sq ! Oc-Ba ! Ptr de A:ke	A:j BFBFF+FFBFB ------+------ ------+------ BFBFF-FFBFB	No. 222 Age (6 - 9) months	H:b Cl de Hu de Ra de Ul da Fe da Ti de Fi -	H:g - J -
A: a:125 b:4FcFr c:5 d:2 e 110000X0 +XXX00000 / 000X0XXX-XXXX0000 f:1-5 g:1-2 h:0-1 ka:125+ kb:1256+ kc:123+ kd:La3 ke:0 l:3 m:2-3	B: a:- b:4(-3) c:- d:1 e:2 f:1 C: a:- b:M16 c:12 d:13 e:1 f:3 g:24bc h:3 j:1- H: a:125 b:2 c:2-3 d:3 e:3 f:♂ g:♂13	D: a:14La679 b:- c:(2) d:124 e:(1) f:- g:- h:- j:- k:3 l:1 m:1 Sex: ♂ No. 223 Age (40 - 50) yrs Mat.	E: a:- b:- c:256 d:1 e:2 f:2-3 g:1-2 h:2a j:- k:- l:- m:- n:- o:- p:- q:- r:- s:- t:- u:- v:-	F: a:- b:14a c:2357 d:2 e:3 f:? g:1 G: a:2-3 b:2-3 c:2 d:2a e:- f:- J: - K: a2, cdte
A:b 8 Fr dra Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------+------ ------+------	No. To a Age (1.5 - 2) years	H:b Cl a Hu de Ra de Ul da Fe da Ti - Fi d(?)a	H:g - J -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------+------ ------+------	No. To b Age (3/4 - 1) year	H:b Cl de Hu d Ra de Ul da Fe da Ti da Fi -	H:g - J -

A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To c** Age: (3/4 - 1) year	H:h Cl d Hu d Ra - Ul a Fr da Ti d Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To d** Age: (3/4 - 1) year	H:h Cl - Hu a Ra - Ul da Fr a Ti - Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To e** Age: (3/4 - 1) year	H:h Cl - Hu da Ra - Ul da Fr a Ti a Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke -	A:j ------- ------- ------- -------	No. **To f** Age: (3/4 - 1) year	H:h Cl a Hu da Ra da Ul d Fr da Ti a Fi a	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr A:ke	A:j ------- ------- ------- -------	No. **To g** Age: (6 - 9) months	H:h Cl - Hu da Ra da Ul da Fr da Ti da Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To h** Age: (6 - 9) months	H:h Cl - Hu da Ra da Ul da Fr da Ti da Fi -	H:g - J: -
A:b 8 Fr d+a? Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To i** Age: (6 - 9) months	H:h Cl d Hu da Ra da Ul da Fr d Ti - Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To j** Age: (3 - 6) months	H:h Cl d Hu da Ra - Ul a Fr da Ti d Fi d	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To k** Age: (3 - 6) months	H:h Cl a Hu da Ra d Ul d Fr da Ti d Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To l** Age: (3 - 6) months	H:h Cl d Hu da Ra - Ul a Fr da Ti d Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To m** Age: (0 - 3) months	H:h Cl - Hu d Ra da Ul - Fr - Ti a Fi -	H:g - J: -
A:b 8 Fr d+a Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **To n** Age: (Foetus?)	H:h Cl d Hu d Ra - Ul d Fr - Ti - Fi -	H:g - J: -
A:b 8 Fr - Oc-Sq - Oc-Ba - Ptr - A:ke	A:j ------- ------- ------- -------	No. **Vi** Age: (Foetus)	H:h Cl d Hu da Ra - Ul da Fr a Ti da Fi -	H:g - J: -

Individual Measurements and Indices

(Tables 23 and 24)

Table 23

CRANIOMETRIC SERIES

MALES

Section	Individual (Grave) No. / Measurements following Martin*	Martin	1 I	1 II	4 I	4 II	5 I	5 II	6 I	6 II	12 I	12 II	61 I	61 II
Brain case (A)	Cubic capacity with miller in cc	38	1380	1380	—	—	1520	1510	1290	1260	—	—	—	—
	" " following Pearson	38 d_1	1424	1424	1492	1477	1480	1471	1421	1421	1298	1292	—	—
	" " " "	38 d_2	1397	1392	1491	1465	1439	1431	(1365)	(1365)	1245	1231	—	—
	Maximum skull length	1	185	185	198	198	190	190	181	181	171	170	—	—
	Glabella-lambda length	3	175	175	192	193	185	184	173	173	162	162	—	—
	Glabella-inion length	2	179	179	178	179	186	186	175	178	168	168	—	—
	Nasion-inion length	2a	175	174	174	175	182	182	168	172	163	163	—	—
	Nasion-bregma length	29	111	111	120	119	108	108	110	109	109	109	—	—
	Bregma-lambda length	30	105	105	114	114	124	124	110	110	105	105	115	115
	Lambda-opisthion length	31	91	90	105	105	95	95	90	89	92	93	89	90
	Nasion-basion length	5	103	103	103	103	106	106	104	104	93	92	—	—
	Maximum skull breadth	8	145	145	135	133	139	138	141	141	137	137	147	148
	Anterior forehead breadth	9	95	95.9	97	97	102	102	102	103	98	98	—	—
	Posterior forehead breadth	10	117	118	113	113	125	124	(129)	(130)	111	110	—	—
	Biauricular breadth	11	134	133	125	126	125	124	125	126	127	127	129	131
	Asterion breadth	12	114	114	116	117	107	107	109	110	110	111	120	119
	Mastoidal breadth	13	(110)	(110)	109	109	101	101	108	108	104	105	112	110
	Basi-bregmatic height	17	126	126	136	136	136	136	132	132	132	132	129	128
	Auricular-bregma height △ -OBH	20a	107	107	116	115	112	112	109.5	109	108	109	—	—
	Auricular-bregma height, measured to OAE-plane	20b	106	105.5	113	113	112	113	(108)	(108)	108	107	—	—
	Vertical auricular height	21	107	107	119	117	115	114	(109)	(109)	107	105	—	—
	Length of foramen magnum	7	37.2	37.4	41.8	41.8	42	42	33.6	33.7	34.5	34.6	33.1	33.2
	Breadth of foramen magnum	16	29.3	29.7	30.6	30.7	30.5	30.7	29.4	29.7	32.1	33.0	30.5	31.0
Circumf. and arcs (B)	Horizontal circumference	23	528	525	539	540	536	534	516	518	493	492	—	—
	Transverse arc	24	315	314	313	316	330	331	321	324	308	310	—	—
	Median sagittal arc	25	351	350	387	386	372	372	355	356	354	355	—	—
	Nasion-bregma arc	26	123	123	134	134	122	122	126	126	123	123	—	—
	Bregma-lambda arc	27	114	114	126	125	138	137	121	121	117	118	127	126
	Lambda-opisthion arc	28	114	113	127	127	112	113	108	109	114	114	110	109
Facial skeleton (C)	Basion-prosthion length	40	97	98	—	—	96	96	—	—	87	87	—	—
	Nasion-gnathion height	47	124	125	(117)	(118)	128	129	—	—	120	121	—	—
	Nasion-prosthion height	48	74	74.5	—	—	81	81	—	—	72	73	—	—
	Upper facial breadth	43	107	107	103	103	107	107	—	—	107	106	—	—
	Inner orbital facial breadth	43:1	99	100	94	95	100	100	—	—	97	98.5	—	—
	Biorbital breadth	44	101	101	96.5	97	101	101	—	—	(101)	(101)	—	—
	Posterior interorbital breadth	49	26	26	—	—	25	25.5	—	—	—	—	—	—
	Anterior interorbital breadth	50	18.7	18.5	20.5	19.0	21.4	22.0	—	—	(23)	(24)	—	—
	Bizygomatic breadth	45	142	142	—	—	—	—	—	—	131	131	—	—
	Maxillary breadth	46	95.5	95.5	101	102	94	95	—	—	89	89	—	—
	Nasal breadth	54	23.2	23.4	(20.6)	(21.3)	29	28.8	—	—	(28)	(28)	—	—
	Nasal height	55	55	55.5	52.5	53.5	57	55.5	—	—	48	48	—	—
	Orbital breadth (left)	51 sin	43	43.2	42.8	42.6	46.0	44.8	—	—	42	41.6	—	—
	" " (right)	51 dx	46	45.3	42.7	42.8	45.0	44.5	—	—	42	41.6	—	—
	Orbital height (left)	52 sin	37	37.4	34.5	34.7	32.7	33.3	—	—	—	—	—	—
	" " (right)	52 dx	37	37.5	36.1	35.7	33.9	34.3	—	—	—	—	—	—
	Palatal length	62	48	48.3	—	—	46.5	47.1	—	—	—	—	44.8	44.8
	Palatal breadth	63	41.1	41	—	—	36.8	37	—	—	40.5	40.0	39.1	39.2
	Palatal height	64	17	17	—	—	12.4	13	—	—	15.5	16.0	19.3	19.0
Angles (D)	Facial outline angle	72	86°	85°	(84°)	(86°5)	89°	94°	—	—	78°	77°5	—	—
	Facial triangle angles: Prosthion-basion-nasion	72:5	43°1	43°4	—	—	46°4	46°9	—	—	46°9	48°1	—	—
	Basion-nasion-prosthion	72:5	64°	64°7	—	—	60°	60°1	—	—	62°2	62°4	—	—
	Nasion-prosthion-basion	72:5	72°7	71°9	—	—	73°0	73°0	—	—	70°9	69°5	—	—
Lower jaw (E)	Condylar breadth	65	128	127	123	123	—	—	—	—	116	117	122	123
	Angle breadth	66	99	100	105	106	—	—	96.5	97	100	102	95	94.5
	Length (68) Go-Mt (Lindegård) sin *	68	87	87.5	80	81	(80)	(79.5)	—	—	72	72.5	81	80.5
	Condylomental line Cd-Mt (Lindegård) sin *	Cd-Mt	130	131	126	127	(122)	(122)	—	—	119	119	128	128
	Chin height	69	35.5	35.5	31.4	31.8	36.2	36.2	39.3	39.3	35.5	35.0	34.6	34.8
	Corpus height p_2h (Morant) sin *	P_2H	32.3	32.5	31.5	31.8	33.3	33.4	34.2	34.5	35.2	35.0	34.5	34.4
	Corpus height m_2h (Morant) sin *	M_2H	25.6	25.8	25.5	25.4	33.5	31.8	—	—	25.2	25.5	29.1	29.1
	Alveolar arch length m_2p_1 (Morant) *	M_2P_1	28	27.6	30	29.5	26.4	25.8	dx 29	28.4	28	28.6	28.2	28.2
	Corpus breadth	69:3	11.3	11.6	9.8	10.2	13.6	13.7	14.2	13.9	11.8	12.0	12.4	12.2
	Ramus height Cd-Go (Lindegård) sin *	Cd-Go	61	61.5	64	64	68	68	—	—	59	59	66.5	66.5
	Ramus breadth sin	71	37	36.5	31.2	31.2	36.7	37	—	—	27.2	27.3	35.9	35.9
	Incisura depth	70:3	13.4	13.5	13.8	13.7	—	—	—	—	10.7	10.7	14.7	14.7
	Incisura breadth	71:1	41.2	41.5	34.5	34.4	—	—	—	—	30.1	29.8	32.8	33.0
	Angulus mandibulae (Morant) *	Ang	122°	121°5	121°	129°	110°5	111°	—	—	130°	129°5	119°	118°
	Angle of slope of alveolar plane (Lindegård) *	Alv	14°	14°3	11°8	12°5	-0°9	-2°0	—	—	20°9	19°5	11°3	10°9
	Outline angle	79:1	96°	95°	—	—	101°	101°	—	—	90°	90°5	—	—
	Basal angle	79:4	68°	65°5	76°5	76°	68°	68°	70°	69°	78°	79°5	65°	65°
Indices (cranium) (F)	Length-breadth index (8/1.100)		78.38	78.38	68.18	67.17	73.16	72.63	77.90	77.90	80.12	80.59	—	—
	Length-height index (17/1.100)		68.11	68.11	68.69	68.69	71.58	71.58	72.93	72.93	77.19	77.65	—	—
	Breadth-height index (17/8.100)		86.90	86.90	100.74	102.26	97.84	98.55	93.62	93.62	96.35	96.35	87.76	86.49
	Tres indices (Fürst) /L-B-I, L-H-I, B-H-I/ *		211	211	113	113	122	123	222	222	332	332	—	—
	Length-OBH-index (20a/1.100)		57.84	57.84	58.59	58.08	58.95	58.95	60.50	60.22	63.16	64.12	—	—
	Breadth-OBH-index (20a/8.100)		73.79	73.79	85.93	86.47	80.58	81.16	77.66	77.31	78.83	78.83	—	—
	Tres indices mod. (Hjortsjö) /L-B-I, L-OBH-I, B-OBH-I/ *		211	211	113	113	112	112	211	211	321	321	—	—
	Sagittal-frontal index (29/26.100)		90.24	90.24	89.55	88.81	88.52	88.52	87.30	86.51	88.62	88.62	—	—
	Sagittal-parietal index (30/27.100)		92.11	92.11	90.48	91.20	89.86	90.51	90.91	90.91	89.74	88.98	90.55	91.27
	Sagittal-occipital index (31/28.100)		79.82	79.65	82.68	82.68	84.82	84.07	83.33	81.65	80.70	81.58	80.91	82.57
	Transverse frontal index (9/10.100)		81.20	80.93	85.84	83.84	81.60	82.26	(79.07)	(79.23)	88.29	89.09	—	—
	Transv. frontoparietal index (9/8.100)		65.52	65.86	71.85	72.93	73.38	73.91	72.34	73.05	71.53	71.53	—	—
	Facial index (47/45.100)		87.32	88.03	—	—	—	—	—	—	91.60	92.37	—	—
	OA. l-b-index (Hjortsjö) /45/40.100/ *		146.39	144.90	—	—	—	—	—	—	150.57	150.57	—	—
	OA. l-n-index (Hjortsjö) /48/40.100/ *		76.29	76.02	—	—	84.38	84.38	—	—	82.76	83.91	—	—
	OA. b-h-index (Hjortsjö) /48/45.100/ *		52.11	52.46	—	—	—	—	—	—	54.96	55.73	—	—
	Facial Tres indices (Hjortsjö) *		332	332	—	—	—	—	—	—	333	333	—	—
	Orbital-index (left) /52/51.100/ sin.		86.04	86.57	81.18	81.46	71.09	74.35	—	—	—	—	—	—
	Orbital-index (right) /52/51.100/ dx.		80.43	82.78	84.54	83.41	75.33	77.08	—	—	—	—	—	—
	Interorbital-index (50/44.100)		18.51	18.31	21.04	19.59	21.19	21.78	—	—	(22.77)	(23.76)	—	—
	Nasal-index (54/55.100)		42.18	42.16	(39.24)	(39.81)	50.88	51.89	—	—	(58.33)	(58.33)	—	—
	Palatal b-h-index (64/63.100)		41.36	41.46	—	—	33.70	35.14	—	—	38.27	40.00	49.36	48.47
	Palatal l-b-index (63/62.100)		86.04	84.89	—	—	79.14	78.22	—	—	—	—	87.28	87.50
	Foramen magnum-index (16/7.100)		78.76	79.41	73.21	73.44	72.62	73.10	87.50	88.13	93.04	95.38	92.15	93.37
Indices (mand.) (F)	Breadth-length index (68/65.100)		67.97	68.90	65.04	65.85	—	—	—	—	62.07	61.97	66.39	65.45
	Breadth-index (66/65.100)		77.34	78.74	85.37	86.18	—	—	—	—	86.21	87.18	77.87	76.83
	Incisura-index (70:3/71:1.100)		32.52	32.53	40.23	39.83	—	—	—	—	35.55	35.91	44.82	44.55
	Index mandibulae (Lindegård) /68/Cd-Mt.100/ *		66.44	96.95	97.62	96.85	—	—	—	—	97.48	98.32	95.31	96.09

* Where measurements follow other authorities, this is stated in the text of the tables.

		89a		89b		98b		99a		104		109		109a		111		115a	
A	18	1480	1460	1340	1320	1290	1300	1540	1560	(1640)	(1580)	1400	1380	1560	1550	1700	1680	1680	1660
	18 d_1	1461	1447	1327	1327	1365	1359	1566	1560	1358	1365	1417	1417	1471	1460	1582	1559	1623	1623
	18 d_2	1441	1433	1306	1365	1293	1281	1509	1591	1541	1530	1388	1379	1438	1444	1651	1660	1664	1638
	1	189	189	194	198	180	180	192	192	188	188	187	187	186	186	202	202	200	200
	1	180	180	186	186	173	172	185	185	185	184	175	175	178	178	194	196	197	197
	2	179	179	191	192	168	167	177	177	175	176	181	181	176	177	193	193	194	194
	2a	173	173	188	188	163	163	170	171	172	172	177	177	173	171	188	187	190	190
	29	118	117	111	111	107	107	115	115	113	113	112	112	107	108	121	120	122	122
	10	116	116	118	119	109	109	121	121	127	126	106	109	117	118	128	127	124	124
	11	93	93	93	93	97	97	104	104	91	90	98	99	102	101	98	98	96	96
	5	96	97	(108)	(108)	101	102	100	100	92	91	102	102	108	109	97	97	103	102
	8	140	139	139	130	134	133	150	149	145	144	137	137	141	142	146	147	153	153
	9	92	92	96	96	100	100	100	100	104	104	97	96	102	102	108	108	106	107
	10	116	115	117	117	116	117	122	122	(125)	(125)	117	117	116	119	126	125	127	128
	11	127	126	118	118	122	122	130	129	125	124	128	128	133	132	128	128	133	133
	12	109	111	106	106	106	108	113	114	115	115	106	105	115	114	120	121	121	121
	13	111	111	96	97	104	103	106	105	102	101	105	106	104	103	103	103	113	114
	17	133	132	131	131	131	131	136	136	115	115	131	131	138	136	131	133	135	135
	20a	112	112	114	114	106	105.5	115	118.5	119	118.5	110	109	113	114	120	120	116	114.5
	20b	112	111	113	112	104	104.5	117	118	119	115	108	107	112	112.5	119	119	114	114
	21	112	111	116	115	108	107	120	120	121	120	111	110	117	117.5	119	118.5	117	116.5
	7	37.7	37.7	38	38.2	34.3	34.5	37.4	37.6	36.2	36.5	38.3	38.4	36.3	36.4	41.5	41.8	41.9	41.5
	16	29.3	29.4	29	29	31.3	31.4	32.8	32.9	30.8	30.8	33.0	33.4	32.3	32.3	29.7	30.4	38.6	38.8
B	23	523	524	521	520	509	509	541	542	541	541	523	521	528	527	570	568	564	562
	24	313	318	313	318	294	296	327	329	(330)	(328)	309	309	325	328	335	338	330	331
	25	383	380	371	371	357	358	391	392	385	386	364	365	370	370	411	411	390	390
	26	134	133	124	125	132	133	129	129	126	128	128	128	119	120	139	139	137	137
	27	131	130	130	131	119	119	133	133	143	144	115	116	129	129	138	138	138	138
	28	118	119	118	117	118	116	129	130	116	114	121	121	122	121	134	134	115	115
C	40	89	90	(97)	(98)	100	101	101	102	93	93	90	90	106	107	100	100	84	84
	47	108	107	(106)	(109)	105	105	109	110	116	116	—	—	106	106	124	124	—	—
	48	63	64	67	67	65	65	65	66	71	71	75	76	65	65	80	80	(74)	(76)
	43	104	104	103	104	108	108	106	106	108	108	105	105	111	111	116	116	112	112
	43.1	94	93.5	98	98	99	99.5	99	99	99	99	98	98.5	104	105	106	104	104	105
	44	95	95	(99)	(100)	100	100	98	99	102	101	98	98.5	105	106	103	104.5	105	106
	49	24.8	25	26.8	27	29	29	25	25	26.7	26.5	21.0	22	25.0	24.5	30	30	28.5	28.0
	50	20.0	20.5	(21)	(21)	(24)	(25)	20.4	21	24	24	16.7	16.5	19.1	19.5	—	—	19.8	20.0
	45	130	130	—	—	129	130	130	130	134	134	131	131	141	141	142	143	142	142
	46	97	98	94	95	93	93.5	91	92	98	99	90	93	105	105	103	102	93	93
	54	21.5	21.6	24.6	24.1	24	23.8	24.1	24.6	26.6	26.4	22.8	23.0	26.3	25.9	(24)	(23.8)	24	24
	55	48	48.5	50	50	47	47	46	46.5	51	51	55	55	49	48.5	57	56.5	57.4	57
	51 sin	40.0	40.3	43	43.6	39.3	39.5	41.8	41.8	44.5	44.5	41.8	41.7	46	46	44	43.6	48.0	47.9
	51 dx	39.6	39.7	—	—	40.5	40.2	41.8	41.8	43.0	43.0	42.0	42.7	46	46.5	—	—	48.5	48.2
	52 sin	33.5	34.0	35	35.1	31.4	31.7	30.4	30.5	32.2	32.4	37.3	37.5	31.6	31.7	36.7	37.0	35.6	35.6
	52 dx	33.4	33.3	—	—	33.0	31.1	30.6	31.0	33.4	33.8	(36.1)	(37.2)	31.5	31.4	38.0	38.9	37.0	37.1
	62	43.4	43.3	—	—	49	49.5	48	47.9	43.5	43.2	41	41.3	50	50.5	51.2	51.0	(44)	(44)
	63	(36.4)	(36.4)	43.6	43.7	42.4	42.1	42.6	42.5	39.8	39.5	(39)	(39)	43.8	43.4	39.7	39.7	(40)	(41)
	64	(5.4)	(6.0)	—	—	14	13.8	11.2	11.4	12.2	12.5	—	—	(12.0)	(12.0)	14.5	14.6	—	—
D	72	87°	87°	8[illegible]°	90°	79°	78°	82°	83°	92°	90°5	90°	90°	83°	82°	82°	83°	(92°)	(94°5)
	72:8	39°6	39°8	38°	37°	37°7	37°3	37°7	38°1	45°1	45°4	45°4	46°25	35°3	35°	47°9	47°9	(45°2)	(47°)
	72:3	64°2	64°3	62°	63°	70°1	70°5	72°	72°4	68°2	68°8	58°8	58°15	70°6	70°9	68°0	68°0	(53°7)	(54°)
	72:4	76°2	76°	80°	80°	72°	72°2	70°1	69°3	66°7	65°8	75°8	75°10	74°0	74°1	64°1	64°1	(81°1)	(79°)
E	65	118	119	112	113	109	110	114	115	118	118	—	—	121	121	125	126	129	129
	66 *	102	102	91	91	93.5	94	95	95	95	94	92	92	99	98	100	100	102	102
	68 *	76.5	76	75	75	79	80	85	84	74.5	74.5	70.5	70	83.5	83.5	92	91.5	80	80
	Cd-Mt	124	124	122	122	125	125	126	126	118	118	122	121	135	134	139	138	132	132
	69 *	36.6	37.0	29.3	29.5	32	31.8	33.2	33.2	32	32	—	—	33.4	32	35.3	35.4	34.9	35
	P.H *	33.4	33.2	28.8	28.6	31.3	31.3	36.7	37.0	29.0	29.2	—	—	34.3	34.6	37.2	37.4	35.3	35.4
	M_1H *	26.8	26.6	26.6	26.7	28.8	28.8	29.3	29.4	27.6	27.7	—	—	30.4	30.3	34.5	34.6	—	—
	M_2P	24.1	23.9	29	29.1	27.8	27.9	29.2	29.1	28.3	27.8	—	—	28.5	28.7	27.1	26.8	—	—
	69:1 *	11.7	11.7	9.8	9.5	13.5	13.4	14.8	14.7	13.6	13.8	9.1	9.1	13.5	13.5	14.7	15.0	11.9	11.9
	Cd-Go	60.5	61	59.5	61	73	73	58	59	68	68.5	66	67	74.5	75.0	78	79	69.5	70
	71	35.3	35.4	32.6	32.4	35.8	35.4	40.5	40.4	32.2	32.4	29.3	29.3	36.3	37.0	36.7	37.0	30.9	30.9
	70:1	15.1	15.0	14.3	14.5	12.4	12.5	13.7	13.9	13.4	13.7	12.1	12.0	16.6	16.8	15.1	14.8	14.2	14.2
	71:1	33.1	33.5	37.5	37.6	36.7	36.5	30.8	31.0	28.5	29.4	36.9	36.4	36.7	37.0	30.3	31.0	36.2	36.1
	Ang. *	128°	127°	128°	126°5	109°	110°	122°	121°5	111°5	111°	126°	125°	117°	116°	109°	104°5	124°	123°5
	Alv. *	15°0	16°3	—	—	5°1	5°8	14°8	15°2	22°2	22°8	—	—	7°4	8°5	3°8	4°8	—	—
	39:1	(97°)	(96°)	108°	105°	108°	108°	103°	102°	97°	97°5	—	—	109°5	108°	113°	113°	—	—
	39:4	77°5	77°	65°5	65°5	67°	67°5	64°5	65°	72°	71°5	71°5	71°5	66°5	68°	67°	68°	68°5	69°
F	8/1 · 100	74.07	73.54	67.01	67.01	74.44	73.89	78.13	77.60	77.13	76.60	73.26	73.25	75.81	76.34	72.28	72.77	76.50	76.50
	17/1 · 100	70.37	69.84	67.53	67.53	72.78	72.78	70.83	70.83	61.17	61.17	70.05	70.05	73.12	73.12	64.85	64.85	67.50	67.50
	17/8 · 100	95.00	94.96	100.77	100.77	97.76	98.50	90.67	91.28	79.31	79.86	95.62	95.62	96.45	95.77	89.73	89.12	88.24	88.24
	Tr I *	112	112	113	113	122	123	211	211	211	211	111	112	222	222	111	111	211	211
	20a/1 · 100	59.26	59.26	58.76	58.76	58.89	58.61	61.08	61.72	63.30	63.03	58.82	58.29	60.75	61.29	59.41	59.41	57.50	57.25
	20a/8 · 100	80.00	80.58	87.69	87.69	79.10	79.32	79.33	79.53	82.07	82.29	80.29	79.56	80.14	80.28	82.19	81.63	75.16	74.83
	Tr I mod. *	112	112	113	113	111	111	221	221	222	222	112	111	212	212	112	112	211	211
	29/26 · 100	88.06	87.97	89.52	88.80	87.70	86.99	89.15	89.15	89.68	88.28	87.50	87.50	89.92	90.00	87.05	86.33	89.05	89.05
	30/27 · 100	88.55	89.23	90.77	90.84	91.60	91.60	90.98	90.98	88.81	87.50	92.17	90.52	90.70	89.92	92.75	92.03	89.86	89.86
	31/28 · 100	78.81	78.15	78.81	79.49	83.62	83.62	80.62	80.00	78.45	78.95	80.99	82.82	83.61	83.47	73.13	73.13	83.48	83.48
	9/10 · 100	80.00	80.00	84.96	84.96	86.21	85.47	81.97	81.97	(83.20)	(83.20)	82.91	82.05	86.44	85.71	85.71	86.40	83.46	83.59
	9/8 · 100	65.71	66.19	73.85	73.85	74.63	75.19	66.67	67.11	71.72	72.22	70.80	70.07	72.34	71.83	73.97	73.47	69.28	69.93
	47/45 · 100	83.08	82.31	—	—	81.40	80.77	83.85	84.62	86.57	86.57	—	—	75.18	75.18	87.32	86.71	—	—
	45/40 · 100 *	146.07	144.44	—	—	129.00	128.71	128.71	127.45	144.09	144.09	145.56	145.56	133.02	131.78	142.00	143.00	169.05	169.05
	46/40 · 100 *	70.79	71.11	(69.07)	(68.37)	65.00	64.36	66.36	64.71	76.34	76.34	84.33	84.44	61.32	60.75	80.00	80.00	(88.10)	(90.48)
	46/45 · 100 *	48.46	49.23	—	—	50.39	50.00	50.00	50.77	52.99	52.99	57.25	58.02	46.10	46.10	56.34	55.94	(52.11)	(53.52)
	Tr I fac. *	321	321	(-1-)	(-1-)	111	111	111	111	332	332	333	333	211	111	333	333	(332)	(332)
	52/51 · 100 sin	83.75	84.37	81.40	80.50	79.90	79.24	72.73	72.97	72.36	72.81	89.23	89.93	68.70	68.91	83.41	84.86	74.17	74.32
	52/51 · 100 dx	83.92	83.88	—	—	76.38	77.36	73.68	74.16	77.67	78.60	(85.95)	(87.12)	68.48	67.53	—	—	76.29	76.97
	50/44 · 100	21.05	21.58	(21.21)	(21.00)	(24.00)	(25.00)	20.83	21.21	23.53	23.76	16.43	16.75	18.10	18.40	—	—	18.86	18.87
	54/55 · 100	44.38	44.54	49.20	48.60	51.06	50.64	52.83	52.90	52.16	51.76	41.45	41.82	53.67	53.49	(42.11)	(42.12)	41.81	42.11
	64/63 · 100	(14.84)	(16.48)	—	—	33.02	32.78	26.29	26.89	30.65	31.65	—	—	(27.40)	(27.65)	36.52	37.28	—	—
	63/62 · 100	83.87	84.06	—	—	86.63	85.05	88.75	88.52	91.49	91.44	(95.12)	(94.43)	87.60	85.94	77.54	77.84	(90.91)	(93.18)
	16/7 · 100	77.72	77.98	76.32	75.92	91.25	91.01	87.70	87.50	85.08	84.38	86.16	86.98	88.98	88.84	71.57	72.73	81.78	81.86
G	68/65 · 100	64.83	63.87	66.96	66.37	72.48	72.73	74.56	73.04	63.14	63.14	—	—	69.01	69.01	73.60	73.02	62.02	62.02
	66/65 · 100	86.44	85.71	81.25	80.53	85.78	85.45	83.33	82.61	80.51	80.51	—	—	81.82	80.99	80.00	79.37	79.07	79.08
	70.1/71.1 · 100	45.62	45.05	38.13	38.56	33.79	34.25	44.48	44.84	47.72	46.60	33.61	32.97	45.23	45.41	49.18	47.74	39.23	39.34
	65/Cd.Mt · 100 *	95.16	95.97	91.80	92.62	87.20	88.00	90.48	92.00	100.00	100.00	—	—	89.63	90.30	89.93	91.30	97.73	97.73

Table 23 (continued)

Craniometric ratios

Males

		116a		117		120		121		122		131		134		135		136a		138	
A	38	1500	1480	(1680)	(1600)	1470	1480	1500	1500	1600	1500	1480	1500	1450	1430	1440	1430	—	—	—	—
	38 d_1	1425	1431	1501	1519	1495	1482	1495	1495	1399	1366	1541	1535	1465	1456	1419	1412	1616	1616	1468	1468
	38 d_2	1357	1358	1475	1481	1537	1530	1487	1487	1356	1344	1531	1525	1477	1463	1390	1382	1619	1619	1407	1407
	1	186	186	196	196	187	186	189	189	178	178	187	186	182	181	197	197	193	193	188	188
	1	175	174	189	189	182	182	180	180	170	170	183	183	178	178	187	186	186	185	181	179
	2	170	170	182	182	185	185	175	176	171	166	177	177	178	177	190	191	188	188	179	179
	2a	166	167	177	176	180	179	171	170	166	166	173	173	172	171	183	184	184	185	175	175
	29	109	109	109	108	118	118	121	121	102	102	113	113	107	107	110	110	130	130	110	111
	30	110	110	130	130	110	111	113	112	115	115	122	122	120	120	123	122	116	116	113	112
	31	109	105	97	97	94	94	93	92	99	99	97	98	95	95	92	92	103	103	105	104
	5	101	102	106	106	98	99	101	101	96	96	100	100	100	99	100	101	101	101	98	98,5
	8	140	141	138	138	150	150	144	144	142	141	148	148	145	144	133	132	149	149	144	144
	9	98	98	101	101	101	101	100	100	99	99	103	103	94	94	90	89	—	—	95	95
	10	122	122	121	120	130	130	125	124	125	125	132	133	121	121	115	115	—	—	118	118
	11	131	130	127	127	119	119	126	126	122	122	125	125	124	123	127	126	135	135	130	128
	12	117	118	116	117	122	120	103	104	108	100	108	110	120	122	114	114	118	117	113	116
	13	(109)	(107)	109	109	97	91	105	106	102	104	100	110	101	102	113	114	116	109	107	106
	17	130	130	136	136	130	129	137	137	130	129	138	138	134	134	131	131	143	143	131	131
	20a	107	107	114	116	115	115	116	116	110	110	117	117	118	117,5	112	113	120	120	106	106
	20b	105	106	113	114	115	115	116	116	108	107,5	116	116	116	116	110	110	116	119	106	106
	21	107	107	115	114,5	115	115	116	116	111	111	118	117	119	118	115	116	121	121	107	107
	7	38,6	39	39,0	39,2	34,5	34,8	35,4	35,5	38,2	38,4	36,8	36,7	35,5	35,8	37	37,2	36,5	36,6	40	40,3
	16	36,1	36,4	32,7	33,1	28,2	28,4	31,9	32,2	30,7	31,0	28,4	28,7	28	29,2	28	27,7	34,9	34,8	36,4	36,2
B	23	526	526	537	538	540	540	528	528	511	510	536	537	525	525	527	527	—	—	537	535
	24	312	312	325	325	337	338	334	336	313	315	335	336	330	333	310	311	331	330	309	313
	25	369	368	388	387	381	381	378	377	369	370	391	393	377	379	380	381	404	404	378	378
	26	117	117	124	122	140	140	140	140	120	120	136	136	124	124	125	127	142	143	124	125
	27	123	123	144	143	121	122	125	125	132	132	137	138	133	133	140	140	133	133	127	126
	28	129	128	120	122	120	119	113	112	117	118	116	119	120	122	115	114	129	128	127	127
C	40	97	97,4	96	97	94	94,5	98	99	95	96	94	94	(89)	(89,5)	101	101	—	—	92	92
	47	119	119	118	118	118	119	106	106	111	111	125	125	—	—	108	108	—	—	129	129
	48	72	73	69	69	72	72	61	61,5	67	67	74	75	(58)	(58,5)	64	64	—	—	78	79
	43	106	106	108	108	106	106	(106)	(105)	104	104	111	111	104	104	98	98	—	—	108	109
	43(1)	97	98	103	101,5	98	99	(98)	(98,5)	96,5	97,5	106	106	93	94	91	92	—	—	99	99
	44	—	—	103	104	98	98,5	—	—	96	96	103	103	97	98	96	97	—	—	100	101
	49	24,5	24,8	28	28	25	25	23,8	24	26	26	—	—	25,1	25	26,5	26	—	—	—	—
	50	20,5	20,5	24	24	21	20,8	20,9	20,9	22,5	23	25,5	25	20	20	23,5	23	—	—	—	—
	45	134	134	138	138	127	127	134	135	128	128	—	—	135	135	(134)	(133)	138	138	134	134
	46	—	—	95	95	93	93	(95)	(95)	90	91	95	96	92	93	94	95	98	98	106	106
	54	22,5	22,7	25,3	25,4	23,5	23,9	23,5	23	23	23,3	25	24,5	21,5	22,0	25,5	25,3	(22)	(22)	24	24,1
	55	56	56	50	50,6	56	56	46,5	46	48,5	48,5	52	53	48	48,5	52	51,0	—	—	57,5	57,5
	51 sin	43	43	44,5	44,5	44,5	44	41	41,5	40,3	40,6	41	41,5	41	40,6	40,5	40,0	—	—	41,4	41,6
	51 dx	—	—	45,0	45,4	45,6	45,1	—	—	42	41,5	44	43,6	41	41	40,5	40,8	—	—	—	—
	52 sin	34,5	34,7	33,9	33,8	35,0	35,2	31,4	31,6	33,5	33,7	34	34,7	32,8	32,8	30,4	30,0	—	—	33	33
	52 dx	—	—	32,0	32,5	35,8	35,6	31,2	31,1	33,7	33,5	36	35,3	33,2	33,5	29,6	29,8	—	—	32,4	32,4
	62	45,5	45,9	45	45,2	47,0	47,2	47	47,7	45	44,4	48	47,8	41,5	42	46	46,2	—	—	—	—
	63	38,5	38,4	45,9	45,6	37,6	37,7	39	39,6	42	42,8	44	43,7	(42)	(43)	43	43,4	41	41	42	41,5
	64	12	13	11,5	11,5	12,2	12,2	—	—	12,0	11,9	—	—	—	—	8,0	8,5	14,5	14,5	—	—
H	72	78°	79,5°	84°	81,5°	86°	86°	83°	85°	78°	80°	89°	88°	(92°)	(91,5°)	80°	80,5°	—	—	85°	84°
	72:5	42,6°	43°	40,1°	39,5°	46°	43,6°	35,2°	35,4°	41,1°	40,8°	45°	45,4°	(35,1°)	(35,7°)	37,1°	37°	—	—	44,4°	48,9°
	72:6	65,7°	65,2°	63,5°	64,8°	65°	64,9°	67,9°	68,6°	68,7°	69,6°	63,2°	63,1°	(62,0°)	(63,2°)	72,5°	71,5°	—	—	61,8°	61,3°
	72:6	71,7°	71,8°	76,2°	75,9°	71°	71,3°	76,9°	76,0°	70,2°	69,8°	71,8°	71,5°	(82,9°)	(81,0°)	70,6°	71,5°	—	—	69,8°	69,8°
E	65	122	123	118	119	114	115	120	119	118	119	—	—	116	116	120	121	122	122	122	122
	66	100	100	103	103	96	96	92	92	84	84	91	92	86	86	101	101	97	97	110	110
	68*	76	74,5	80	79	82,5	83,5	81,5	82	74	74,6	81	80,5	81	83	89	89	81	81	77	76,5
	Cd-Mt*	134	125	132,5	132	125,5	125	121,5	122	119	120	128	128	124	124	131	130	131	131	133	132
	69	36,9	36,6	35,2	35,5	35,1	35,0	33,0	33,0	32,8	33,0	37,8	38	—	—	33,2	33,0	42	42	35,1	35,2
	P_1H*	34,2	33,9	36,0	35,9	33,2	33,2	36,2	36,0	30,8	31,0	33,7	33,7	31,3	31,6	33,1	33,3	39,4	39,5	32,8	33,0
	M_2H*	27,6	27,9	29,0	29,0	(27,3)	(27,4)	29,0	30,2	27,2	27,3	(25,6)	(25,2)	26,8	26,7	27,8	28,1	33,9	34,1	30,6	30,7
	M_1P_1*	26,1	26,4	28,8	29,1	(27,5)	(27,2)	26,2	26,7	27,3	26,8	24,6	24,1	26,5	26,9	27,3	27,1	24,7	24,5	25,9	25,7
	[illegible]	10,3	10,7	11,8	11,8	12,7	12,8	14,4	14,2	9,3	9,6	10,6	10,4	11,0	11,1	11,3	11,6	9,7	9,5	12,5	12,2
	Cd-Go*	67	67,5	69	71	62	62	61,5	61,5	62,5	62,5	63,5	64	75	75	69	69	67	67	78	78
	71	33,2	33,3	34,4	34,6	32,5	32,4	35,3	35,6	30,0	29,9	35,2	35,5	32,8dx	32,8	34,9	34,9	33	32,8	34,8	35,0
	70:3	13,1	13,7	10,8	10,9	13,8	13,9	16,0	15,8	13,2	13,0	18,2	18,1	13,9	13,9	10,5	10,4	—	—	13,1	12,8
	71:1	33,4	32,6	40,0	40,5	31,4	31,5	32,8	33,0	33,6	33,7	38,0	38,4	36,8	36,1	31,2	31,4	—	—	39,5dx	39,2
	Ang.*	123°	122°	(124,5°)	122°	119,5°	119°	(115,9°)	115,8°	121°	121°	123°	123°	103,5°	103°	110°	110°	124°	124°	118°	117°
	Alv.*	14,5°	13,1°	13,7°	13,9°	(12,2°)	(12,5°)	13,6°	12,5°	7,5°	7,3°	(21,2°)	(20,1°)	9,8°	9,6°	11,2°	11,0°	11°	11°	4,7°	5,3°
	79:1	85°	85°	104°	102,5°	91°	89,5°	95°	98°	89°	87°	80°	91°	—	—	108°	109°	—	—	91°	91°
	79:a	76,5°	75°	72°	73°	64,5°	64,5°	65,5°	67°	65,5°	65,5°	65°	65°	63,5°	63°	67°	67,5°	66,5°	66,5°	75°	75,5°
F	8/1 · 100	75,27	75,81	70,41	70,92	80,21	80,65	77,84	77,84	79,78	79,21	79,14	79,57	79,67	79,56	68,91	68,39	77,20	77,20	76,60	76,60
	17/1 · 100	69,89	69,89	69,39	69,39	69,52	69,35	74,05	74,05	73,03	72,47	73,80	74,19	73,63	74,03	67,88	67,88	74,09	74,09	69,68	69,68
	17/8 · 100	92,86	92,20	98,55	97,84	86,67	86,00	95,14	95,14	91,55	91,49	93,24	93,24	92,41	93,06	98,50	99,24	95,97	95,97	90,97	90,97
	Tr I	112	212	113	112	311	311	222	222	321	221	222	322	322	322	113	113	222	222	211	211
	20a/1 · 100	57,53	57,53	58,16	58,16	61,50	61,83	62,70	62,70	61,80	61,80	62,57	62,19	64,84	64,92	56,91	58,55	62,18	62,18	56,38	56,38
	20a/8 · 100	76,43	75,89	82,61	82,01	76,67	76,67	80,56	80,56	77,47	78,01	79,05	79,05	81,38	81,60	84,21	85,61	80,54	80,54	73,61	73,61
	Tr I mod.*	111	211	112	112	321	321	222	222	321	323	221	321	332	322	112	113	222	222	211	211
	24/26 · 100	89,74	89,74	87,02	88,52	84,29	84,29	86,43	86,43	85,00	85,00	83,09	83,09	86,29	86,29	88,00	86,61	91,55	90,91	88,71	88,80
	30/27 · 100	89,43	89,43	90,28	90,61	90,91	90,98	90,40	89,60	87,12	87,12	89,05	88,41	90,23	90,23	87,86	87,14	87,22	87,22	88,98	88,89
	31/28 · 100	81,40	82,03	80,83	79,51	78,33	78,99	82,30	82,14	83,76	83,05	82,20	82,35	79,17	77,87	80,00	80,70	79,84	80,47	82,68	81,89
	9/10 · 100	80,33	80,33	83,47	84,17	77,69	77,69	80,00	80,65	79,20	79,20	78,03	77,44	77,69	77,69	78,26	77,39	—	—	80,51	80,51
	9/8 · 100	70,00	69,50	73,19	72,66	67,33	67,33	69,44	69,44	69,72	70,21	69,59	69,59	64,83	65,28	67,67	67,42	—	—	65,97	65,97
	47/45 · 100	88,81	88,81	85,51	85,51	92,91	93,70	79,10	78,52	86,72	86,72	—	—	—	—	(80,60)	(81,20)	—	—	96,27	96,27
	45/40 · 100*	138,14	137,46	143,75	142,27	135,11	134,39	136,73	136,36	134,74	133,33	—	—	(151,69)	(150,84)	(132,67)	(131,68)	—	—	145,65	145,65
	48/40 · 100*	74,23	74,87	71,88	70,10	76,60	76,19	62,24	62,12	70,53	69,79	78,72	79,79	(65,17)	(65,36)	63,37	63,37	—	—	84,78	85,87
	48/45 · 100*	53,73	54,48	50,00	49,27	56,69	56,69	45,52	45,86	52,34	52,34	—	—	(42,96)	(43,33)	(47,76)	(48,12)	—	—	58,21	58,96
	Tr I fac.*	222	222	321	321	211	213	211	211	222	212	—	—	(311)	(311)	(111)	(111)	—	—	313	333
	52/51 · 100 sin	80,47	80,70	76,18	75,96	78,65	80,00	76,59	76,14	83,13	83,00	82,93	84,02	79,27	80,39	75,06	75,00	—	—	79,71	79,33
	52/51 · 100 dx	—	—	71,11	71,58	77,75	78,94	—	—	79,05	81,11	81,82	80,96	80,98	81,71	73,09	73,04	—	—	—	—
	50/44 · 100	—	—	23,30	23,08	21,43	21,12	—	—	23,44	23,96	24,76	24,27	20,62	20,41	24,48	23,71	—	—	—	—
	54/55 · 100	40,18	40,54	50,60	50,30	41,96	42,67	50,54	50,00	47,42	48,04	48,08	46,23	44,79	45,36	49,04	49,61	—	—	41,74	41,91
	64/63 · 100	31,17	31,25	25,41	25,41	32,78	32,36	—	—	28,57	27,80	—	—	—	—	18,60	19,59	35,37	35,37	—	—
	63/62 · 100	84,62	83,66	102,00	100,88	80,00	79,87	76,60	74,63	93,33	96,40	91,67	91,42	(101,20)	(102,38)	93,48	93,94	—	—	—	—
	16/7 · 100	93,52	93,33	83,85	84,44	81,74	81,61	89,61	91,22	80,16	80,73	82,18	82,71	78,87	78,77	75,68	74,46	95,62	95,36	91,00	89,83
G	68/65 · 100	60,66	60,37	67,80	66,39	72,37	71,74	67,92	68,91	62,71	62,61	—	—	71,55	71,55	74,17	73,55	66,39	66,39	63,11	62,70
	66/65 · 100	81,97	81,30	87,29	86,55	84,21	83,48	76,67	77,31	71,19	70,59	—	—	74,14	74,14	84,17	83,47	79,51	79,51	90,16	90,16
	70:3/71:1 · 100	40,43	40,80	27,00	26,91	43,95	44,13	48,78	47,88	39,29	38,58	47,89	47,14	37,77	38,29	33,65	33,12	—	—	33,16	32,65
	65/Cd-Mt · 100*	98,39	98,40	89,06	90,15	90,84	92,00	98,77	97,54	99,16	99,17	—	—	93,55	93,55	91,60	93,08	93,13	93,13	91,73	92,42

Table 23 (continued)

Craniometric series

Males

		139		140		142		146		147a		153		155		156		157a		157b	
A	38	1550	1540	1400	1500	1540	1520	1560	1560	1390	1380	1460	1450	—	—	1480	1400	1600	1600	1530	1550
	38 d_1	1514	1513	1516	1516	1552	1538	1524	1517	1459	1447	1387	1370	—	—	1441	1435	1579	1563	1436	1422
	38 d_2	1529	1529	1446	1450	1501	1564	1404	1456	1449	1426	1303	1282	—	—	1433	1416	1596	1577	1488	1472
	1	187	187	194	193	188	188	190	189	190	189	182	181	—	—	188	188	202	202	189	190
	1	181	181	185	184	180	180	185	184	183	182	173	174	—	—	186	185	188	188	177	177
	2	180	179	184	184	171	171	184	183	174	174	177	176	—	—	179	179	190	191	184	188
	2a	175	174	179	179	166	166	179	179	170	171	173	175	—	—	177	177	186	187	183	180
	29	115	114	113	113	113	113	121	121	114	116	106	105	—	—	112	112	114	115	112	112
	30	120	120	112	111	114	114	114	115	117	116	115	115	—	—	124	124	119	118	110	110
	31	97	97	107	107	109	108	94	93	100	100	101	101	—	—	99	99	98	98	92	92
	5	95	100	111	111	97	97	106	106	102	102	94	93	—	—	98	97.5	109	109	102	102
	8	144	144	137	137	151	150	143	142	139	138	134	133	—	—	141	140	141	140	143	144
	9	93	93	94	94	95	95	107	106	95	95	94	94	91	91	97	97	101	102	98	98.5
	10	121	120	116	115	122	123	131	130	118	118	119	119	(109)	(106)	119	118	122	122	122	122
	11	130	129	133	133	125	124	133	134	119	119	120	120	—	—	132	131	131	132	130	130
	12	113	116	(112)	(112)	118	119	117	117	103	103	101	100	—	—	113	115	116	117	110	112
	13	108	109	110	111	104	104	108	110	97	99	100	101	—	—	109	110	112	114	111	111
	17	138	138	140	141	136	136	139	139	133	133	133	132	—	—	130	130	138	138	125	124
	20a	119	119	115	116	117	117	114	114	113	112	108	108	(115)	(114)	111	110	119	118	114	112
	20b	118	119	112	113	115	116	111	112	112	112	106	105	—	—	110	110	116	116	112	112
	21	121	121	119	118	116	118	111	113	117	116	107	107	—	—	111	109	120	119	113	113
	7	36.3	36.5	39.3	39.3	35.3	35.0	38.2	38.3	33.2	33.2	38.0	38.0	—	—	36.0	36.5	43.6	44.6	39.5	39.5
	16	34.0	34.1	33.5	33.4	30.1	30.0	32.5	32.8	30.1	30.3	(33.0)	(32.5)	—	—	32.8	32.5	34.8	34.7	31.8	32.0
B	23	530	528	533	532	536	538	535	536	524	524	508	510	—	—	529	529	553	553	531	531
	24	335	335	325	327	332	333	334	334	328	324	313	314	—	—	313	315	327	326	330	332
	25	382	382	379	380	385	386	376	376	383	388	373	374	368	369	379	380	388	386	368	368
	26	130	130	128	128	130	129	137	136	127	127	120	120	124	125	126	127	130	129	130	130
	27	135	135	125	124	122	123	128	129	132	133	128	128	136	136	136	136	131	130	121	121
	28	117	117	128	128	133	134	111	111	124	123	125	126	108	108	117	117	127	127	117	117
C	40	98	98.5	(103)	(103)	90	91	97	97	(100)	(100)	87	87	—	—	89	88	96	97	101	101
	47	115	115	—	—	113	113	116	115	(109)	(109)	113	112	—	—	128	126	127	126	116	117
	48	69	68	(65)	(65)	70	69.5	73	72	(65)	(65.5)	72	72	—	—	78	77.5	74	74	76	75.5
	43	100	100	105	105	103	103	114	114	104	104	105	105	—	—	105	104	112	112	(106)	(106)
	43(1)	93	93.5	98	98.5	97	98	103	103	97	97	99	99	96	96	95	95	107	108	(95)	(97)
	44	96	96.5	99	99	97	98	108	108	97	98	99	100	—	—	97	97.5	107	107	96	96.5
	49	23.5	23.7	25.2	25	26	26	28.5	28	24.0	24.6	24	24	24.5	24.5	—	—	(30)	(29)	26.1	26
	50	21.9	21	22	22	19.2	20	23	23	21.3	21.5	20	19	—	—	—	—	24.5	24	21.6	21.5
	45	135	136	140	140	133	133	142	142	129	129	(130)	(130)	—	—	142	142	141	141	134	135
	46	100	101	103	103	102	103	99	101	95	96	103	103	—	—	100	101	96	97	89	88
	54	24.5	24.2	24	23.5	25.7	25.7	27	27	24.4	24.6	25.0	25.5	—	—	—	—	26.2	26.5	22.6	22.7
	55	50.5	50	51	51	50.5	50.5	52.5	53	51	50.9	52.3	52.5	—	—	59	58.3	54	56	56	56.5
	51 sin	41	40.6	43.9	43.6	42.0	42.0	47.8	47.9	41.4	41.1	44	44	—	—	—	—	48.0	44.4	42.3	43
	51 dx	41	40.8	43.0	43.0	42.1	42.1	47.5	47.4	40.9	40.6	42.6	43	—	—	—	—	49.5	49.5	42.1	42.0
	52 sin	32.6	32.6	32	31.9	31.6	31.5	33.8	33.3	34.3	35.0	32.9	33	—	—	35.8	35.8	35.5	35.6	33.6	33.2
	52 dx	32.5	32.6	32.2	32.5	31.1	31.3	33.9	34.0	34.6	34.8	33.5	33.4	—	—	36.1	36.1	36.0	37.0	(33.9)	(33.2)
	62	45	45.1	48	49	45	45.1	47.0	47.0	(47)	(46.5)	42.5	42.6	—	—	46.5	47	45.5	46.0	46	45.8
	63	46	45.6	(41)	(41)	42.5	41.8	44.2	44.4	42	42	39.0	39.2	—	—	40	40	(42)	(42)	42.7	42.4
	64	12	12.7	—	—	12.1	12.6	16.3	16.8	—	—	12	12.6	—	—	12.6	12.6	—	—	(15)	(16.5)
D	72	82°	81°	87°	86°5	87°	88°	86°	86°	83°	83°5	85°	84°	—	—	84°	85°	89°	89°5	87°	88°5
	72:5	41°	40°7	(35°1)	(35°3)	43°8	43°2	41°9	41°3	(37°5)	(37°6)	46°7	47°	—	—	49°2	49°1	41°7	41°6	44°	43°7
	72:5	68°7	68°5	(65°7)	(65°7)	62°8	63°8	62°8	62°6	(69°6)	(69°4)	61°6	62°1	—	—	59°7	59°1	59°7	60°5	67°3	67°8
	72:5	70°5	70°8	(79°2)	(79°2)	73°6	73°	75°6	76°1	(72°9)	(72°8)	71°7	72°9	—	—	72°1	71°8	78°6	77°9	68°7	68°8
E	65	126	126	126	126	116	116	124	125	—	—	112	112	112	112	—	—	—	—	—	—
	66 *	108	106	110	110	98	97	108	108	92	92	89	90	92	92	108	107	107	107	102	102
	68 *	76	76	94.5	94.5	81.3	81.5	86	86	83	82.5	75.5	76	85.5	86	82	81	84	86	83	83
	Cd-Ml *	126	125	121	127	123	123	132	132	127	127	118	117	130	130	134	134	139	139	128	128
	69 *	33.6	33.4	36	36	33.1	33.1	35.9	36.0	—	—	28.8	28.7	33.7	33.9	37.6	38	(34.5)	(34)	34.0	34.0
	P_1H *	33.4	33.3	33.6dx	33.5	31.1	30.9	33.6	34.1	—	—	27.1	27.4	32.0	31.9	36.0	35.8	—	—	37.3	37.1
	M_1^2H *	(23.8)	(24.0)	29.8	30.1	29.5	29.5	30.7	30.4	—	—	29.1	29.6	30.5	30.2	29.5	29.5	34.5	34.9	33.7	33.6
	$M_2^2P_1$ *	26.1	26.0	—	—	27.4	27.5	28.4	28.0	—	—	27.2	27.5	27.6	27.6	28.2	27.2	—	—	25.7	25.3
	sM3 *	12.1	12.0	14.0	13.8	12.4	12.3	12.9	12.9	12.6	12.4	10.3	10.7	11.7	11.8	12.2	12.2	10.1	10.1	11.8	12.0
	Cd-Gn *	64	64	74	74	64	64.5	70	70	66	66.5	70	71	71	70	75.5	75.8	69	69	70.5	71
	71	36.4	36.0	34.8	34.8	37.1	37.2	36.1	36.2	32.1	33.3	31.0	30.8	33.8	34.2	32.3	32.9	36.9	38	38.4	38.3
	70:3	14.3	14.3	14.3	14.3	14.6	14.6	13.7	13.8	14.9	15.0	12.5	12.6	14.6	14.7	16.7	16.7	15.2	14.5	15.7	15.5
	71i	36.8	36.4	36.6	37.0	34.6	34.3	34.8	34.8	29.3	29.5	29.6	29.6	32.4	32.7	30.9	30.8	42	41.8	41.9	42.3
	Ang. *	127°	126°5	107°	107°	119°5	114°	115°	114°2	115°5	116°	106°	105°5	111°5	112°	118°5	117°5	129°	129°	112°	111°
	Alv. *	(21°6)	(21°1)	—	—	3°2	4°6	5°2	7°3	—	—	17°1	16°4	2°6	3°6	12°8	13°0	—	—	8°9	7°8
	79:1	95°	94°	—	—	109°5	109°5	116°	116°	—	—	88°5	89°	—	—	99°	99°	—	—	103°5	104°
	79:4	76°5	76°5	73°	73°	69°5	68°5	72°	71°	65°	65°	59°	59°8	61°8	61°6	76°	77°	71°	71°	70°5	71°5
F	8/1 · 100	77.01	77.01	70.62	70.98	80.32	79.79	75.66	75.13	73.16	73.02	73.63	73.48	—	—	75.00	74.47	69.80	69.31	76.72	76.19
	17/1 · 100	73.80	73.80	72.16	73.06	72.34	72.34	73.54	73.54	70.00	70.37	73.08	72.93	—	—	69.15	69.15	68.32	68.32	66.14	65.61
	17/8 · 100	95.83	95.83	102.19	102.92	90.07	90.67	97.20	97.89	95.68	96.38	99.25	99.25	—	—	92.20	92.86	97.87	98.57	86.21	86.11
	Tr 1 *	222	222	123	121	321	321	222	122	112	112	123	123	—	—	112	112	112	111	211	211
	20a/1 · 100	63.64	63.64	59.28	60.10	62.23	62.23	60.32	60.32	59.47	59.26	59.34	59.67	—	—	59.04	58.51	58.91	58.42	60.32	59.79
	20a/8 · 100	82.64	82.64	83.94	84.67	77.48	78.00	79.72	80.29	81.29	81.16	80.60	81.20	—	—	78.72	78.57	84.40	84.29	78.62	78.47
	Tr 1 mod. *	222	222	113	113	321	321	211	112	112	112	112	112	—	—	111	111	111	111	211	211
	29/26 · 100	88.46	87.69	88.28	88.28	86.92	87.60	88.32	88.97	89.76	89.76	87.50	87.50	—	—	88.89	88.19	87.69	89.15	86.15	86.15
	30/27 · 100	88.89	88.89	91.06	89.52	93.44	92.68	89.06	89.15	88.64	87.22	89.84	89.84	—	—	91.18	91.18	90.84	90.77	90.91	90.91
	31/28 · 100	82.91	82.91	83.59	83.59	81.95	80.60	84.68	83.78	80.65	80.65	80.80	80.16	—	—	84.62	84.62	77.17	77.17	78.63	78.63
	9/10 · 100	76.86	77.50	81.03	81.74	77.87	77.24	81.68	81.54	80.51	80.51	78.99	78.99	—	—	81.51	82.20	84.43	84.43	80.33	80.74
	9/8 · 100	64.58	64.58	68.61	68.61	62.91	63.33	74.83	74.65	68.35	68.84	70.15	70.68	—	—	68.79	69.29	71.63	71.67	67.59	68.40
	47/45 · 100 *	85.19	84.56	—	—	84.96	84.96	81.69	80.99	(84.50)	(84.50)	(86.92)	(86.15)	—	—	90.14	90.14	90.07	89.36	86.57	86.67
	45/40 · 100 *	137.76	138.07	135.92	136.92	147.78	146.15	146.39	146.39	(129.00)	(129.00)	(149.43)	(149.43)	—	—	161.36	161.36	146.88	145.36	152.67	133.66
	48/40 · 100 *	70.41	70.05	63.11	63.11	77.78	76.37	75.26	74.23	(65.00)	(65.50)	82.76	82.76	—	—	88.64	88.07	77.08	76.29	75.25	74.75
	48/45 · 100 *	51.11	50.74	46.43	46.43	52.63	52.26	51.41	50.70	(50.39)	(50.78)	(55.38)	(55.38)	—	—	54.93	54.58	52.48	52.48	56.72	55.93
	Tr 1 fac. *	221	221	211	211	332	332	331	321	(111)	(111)	(333)	(333)	—	—	333	333	332	332	132	221
	52/51 · 100 sin	79.51	80.30	74.42	73.56	75.24	74.12	70.71	70.35	84.06	85.16	74.77	75.00	—	—	—	—	73.96	75.55	79.06	77.21
	52/51 · 100 dx	79.27	79.90	74.88	75.58	73.87	74.00	71.37	71.73	84.60	85.71	79.11	77.67	—	—	—	—	73.74	74.75	(80.52)	(79.05)
	50/44 · 100	22.40	21.76	22.22	22.22	19.79	20.41	21.30	21.30	21.96	21.94	20.20	19.00	—	—	—	—	22.90	22.43	22.50	22.28
	54/55 · 100	48.51	48.40	47.06	46.08	50.89	50.89	51.43	50.94	47.84	48.71	47.62	48.57	—	—	—	—	48.52	45.07	40.36	40.18
	64/63 · 100	26.09	27.85	—	—	28.47	29.67	36.88	37.84	—	—	30.77	32.65	—	—	32.50	33.50	—	—	(35.13)	(38.92)
	63/62 · 100	102.22	101.11	(85.42)	(83.67)	94.44	92.68	94.04	94.47	(89.36)	(90.32)	91.76	92.02	—	—	86.02	85.11	(92.31)	(91.30)	92.83	92.59
	16/7 · 100	86.77	86.57	85.24	84.99	85.28	85.71	85.08	85.86	90.66	91.26	(87.89)	(85.53)	—	—	91.11	89.04	79.82	78.86	80.51	81.01
G	68/65 · 100	60.32	60.32	67.06	67.06	70.26	70.26	69.35	68.80	—	—	67.87	67.86	76.38	76.79	—	—	—	—	—	—
	66/65 · 100	84.13	84.13	87.30	87.30	84.48	83.62	85.48	84.80	—	—	79.46	80.36	85.14	82.14	—	—	—	—	—	—
	70:3/71i · 100	38.86	39.29	39.07	38.65	42.20	42.57	39.37	39.66	50.85	50.68	42.19	41.89	45.06	44.95	54.22	54.22	36.19	34.69	37.47	36.64
	65/Cd-Ml · 100 *	100.00	100.80	99.21	99.21	94.31	94.31	93.94	94.70	—	—	96.55	95.73	86.15	86.15	—	—	—	—	—	—

Table 23 (continued)

Craniometric series

Males

		158		159		160		162		164		165		166a		166b		167b		172	
A	18	—	—	1420	1420	1400	1380	(1400)	(1400)	1380	1400	1440	1440	1400	1380	1500	1500	1580	1560	1540	1520
	38 d_1	1511	1511	1484	1498	1378	1389	1422	1426	1461	1468	1455	1425	1366	1379	1486	1486	1529	1524	1454	1449
	38 d_2	1504	1506	1460	1468	1356	1371	1423	1429	1449	1466	1379	1388	1352	1358	1536	1546	1503	1497	1462	1448
	1	194	199	197	197	179	180	181	182	189	189	181	181	183	182	193	193	190	189	185	184
	3	182	183	177	178	171	170	178	179	182	183	175	174	174	174	190	189	182	182	176	177
	2	187	187	178	178	171	170	173	173	184	184	169	170	183	182	184	184	178	176	172	171
	2a	182	183	173	173	162	163	167	167	180	180	163	163	181	181	182	181	173	173	167	167
	29	113	116	119	118	106	106	113	112	117	117	111	110	109	110	119	119	117	117	111	111
	30	107	108	100	101	114	114	116	116	114	113	113	113	106	106	122	123	117	117	117	117
	31	103	103	106	107	95	93	94	94.5	98	98	98	98	96	96	95	96	100	100	93	93
	5	107	107	101	101	96	95.5	99	98	106	106	99	98.5	97	97	99	99	101	101	101	101
	8	144	143	144	145	139	140	140	140	135	136	139	139	139	139	144	144	141	141	142	141
	9	104	103	107	107	95	95	99	99	98	98	98	97	101	100	99	99	101	101	101	102
	10	127	128	125	126	(121)	(120)	121	122	113	112	119	118	122	122	119	120	120	120	124	123
	11	136	135	134	134	127	126	125	125	126	127	121	120	125	124	121	122	127	126	128	128
	12	118	118	123	122	114	117	106	108	108	109	(113)	(117)	110	111	111	110	111	111	112	112
	13	119	117	109	110	106	108	104	103	108	109	104	106	109	109	99	100	107	107	102	102
	17	130	131	134	135	129	129	134	133	138	138	139	139	127	127	130	130	141	141	132	134
	20a	113	113.5	112	112	111	111.5	116	116	118	118	111	112	107	106	116	117	119	118	115	115
	20b	110	111	111	111.5	110	110	115	115	117	118	111	112	107	106	116	115	117	117	111	113.5
	21	110	111	112	112	117	117	117	116	118	118	114	115	108	108	118	119	117	116	115	116
	7	40	40.3	37.0	36.8	33.6	34.1	34.8	34.9	32.6	33.0	35.9	36.2	40.5	40.5	33.5	33.8	40	40	35.8	35.7
	16	34	34.4	29.4	29.5	31.1	31.4	31.2	31.7	27.9	29.0	32.6	33.2	30.4	30.8	27.0	27.1	32.3	32.0	30.6	30.9
B	23	556	551	535	537	520	513	517	516	523	526	521	521	518	518	537	538	531	530	521	522
	24	330	330	325	325	317	320	323	324	326	325	318	321	309	308	332	333	330	332	329	329
	25	378	377	377	379	372	372	368	368	384	385	374	375	359	358	393	394	387	387	371	372
	26	132	132	136	136	121	120	126	125	132	133	126	127	123	121	134	135	136	135	129	129
	27	115	114	106	107	130	130	132	132	127	127	130	130	117	117	139	139	128	129	128	130
	28	131	131	135	136	121	122	110	111	125	125	118	118	119	119	120	120	123	123	114	113
C	40	(102)	(103)	90	90	(94)	(94)	(89)	(89)	99	99	99	100	88	88.5	96	96	94	95	90	91
	47	127	127	111	111	115	115	112	111	129	128	115	115	115	116	119	120	113	114	115	115
	48	(73)	(73)	(64)	(64)	(68)	(67.5)	(61)	(61.5)	73	73	70	70	71	70.5	73	72.5	67	66.5	70	70
	43	110	110	112	112	105	105	103	103	107	107	(106)	(106)	107	107	106	106	105	105	106	106
	43:1	100	101	101	102	98	99	96	96	98.5	99	97	97.5	101	102	99	99	95	95.5	100	100
	44	103	104	102	102	99	100	97	97.5	102	102	—	—	100	101	98	98	95	95.5	101	101
	49	—	—	—	—	—	—	—	—	25.1	25	—	—	29	29	27.0	27.0	24	24	(29)	(28.5)
	50	22.8	22.5	(28)	(27)	(21)	(22)	—	—	23.7	23.8	(19)	(19)	25.5	25.8	25	24	19	18.5	23	23.5
	45	146	146	141	141	—	—	135	135	135	135	—	—	131	131	(127)	(126)	129	129	—	—
	46	96	97	105	104	97	98	94	94	94	93.5	—	—	93	93	93	94.5	(96)	(97)	96	96
	54	25.5	25.6	—	—	24.5	24.3	22	21.6	25.0	25.0	23	22.6	22.4	22.6	24.7	24.8	24	24	26	26.2
	55	51.4	51.5	51.0	51.0	54.5	54.5	45	46	52.7	53	51	50.5	52	52	50	50	50	49.5	51.5	52
	51 sin	44.5	44	(38.0)	(38.0)	41.5	41.2	—	—	42.5	42.8	41	43.2	44	44.5	43.5	43.5	43	43.5	43	43.3
	51 dx	45.5	45.5	(39.0)	(39.0)	(42)	(42.5)	40.9	41.0	41.4	41.3	—	—	45	45.2	43.5	43.5	44	43.6	43	43.2
	52 sin	33.5	33.6	29.7	29.7	33.6	33.2	34.0	33.8	32.0	32.2	32.8	33.1	37	37.1	34.5	34.3	32.5	32.5	31.8	31.4
	52 dx	35.0	35.0	29.4	29.7	(36)	(36.3)	33.3	32.9	32.5	32.8	—	—	37.0	37.0	32.6	32.6	31.5	31.8	31.6	31.6
	62	—	—	44.6	44.5	—	—	(42)	(42)	45.0	45.0	49	49.5	—	—	46.5	46.0	47.8	47.8	—	—
	63	41.7	41.5	(43.3)	(43.5)	43.8	43.3	(39.5)	(39.5)	41.6	41.6	43.5	43.7	(39)	(40.5)	43	43	39.3	39.1	40.5	40.4
	64	—	—	—	—	14	14.4	—	—	16.5	16.5	(10)	(10)	(11)	(11.5)	16	16.4	12	12.1	11.5	11.5
D	72	85°	87°	90°.5	91°	(86°)	(86°)	(85°)	(87.5°)	89°	89°.5	77°	78°	87°	87°	89°	90°	84°	85°	89°	88°
	72:3	(40°.0)	(40°.6)	(38°.6)	(38°.6)	(41°.9)	(41°.7)	(37°.6)	(38°)	41°.5	41°.5	41°.4	41°.1	44°.8	44°.4	43°.9	43°.8	40°	39°.4	42°.5	42°.4
	72:5	(65°.9)	(66°.7)	(61°.3)	(61°.3)	(67°.5)	(67°.9)	(63°.3)	(63°.1)	64°.1	64°.1	69°.3	70°.5	60°.9	61°.4	65°.8	66°	64°.4	65°.3	60°.1	61°.1
	72:6	(73°.3)	(72°.9)	(80°.1)	(80°.1)	(70°.8)	(70°.4)	(79°.2)	(78°.9)	74°.6	74°.4	69°.3	68°.2	74°.3	74°.2	70°.3	70°.4	75°.6	75°.3	77°.2	76°.5
E	65	130	131	—	—	117	118	112	113	112	112	118	119	114	114	117	118	119	119	123	123
	66 *	109	109	103	102	98	97	97.5	98	100	99	105	105	98	98	94	94	97	96	104	104
	68	84.5	84	84	83	84	83.5	78	77.5	88	85.5	76	76	74.5	74	71	70.5	79	79	74.5	74.3
	Cd-Mt *	137	137	132	132	131	130	125	125	134	134	128	127	117	116	122	122	125	124	119	120
	69 *	37.8	38.0	34.0	34.2	33.6	33.6	35.2	35.2	39.0	39.0	33.3	33.8	(31.2)	(31)	36.3	36.7	31.3	31.3	32.6	32.9
	P_1H *	39.6	39.3	35.0	34.7	34.9	35.1	37.7	38.0	36.5	36.3	30.9	30.9	30.0	29.9	35.8	35.5	33.2	33.2	31.1	31.0
	M_2H *	33.9	34.0	29.0	28.8	32.8	32.8	32.8	33.0	34.8	34.7	25.9	26.1	25.1	25.3	31.5	31.3	28.7	29.0	28.0	27.7
	M_2P_1 *	26.8	26.6	26.9	27.0	25.4	25.7	24.3	24.8	26.1	25.8	24.4	24.6	24.6	24.6	28.1	27.8	25.2	25.0	28.8	29.2
	69(3) *	10.6	10.6	14.1	14.5	13.2	13.0	12.6	12.4	11.2	10.8	9.0 dx	9.5	12.0	11.6	11.6	11.5	10.7 dx	10.8	12.6	12.7
	Cd-Gn	68	69	75 dx	76	66	66	67	68	76	75.5	65	65	58	58	68	68.5	64.5	65	59.5	59.5
	71	35.1	35.0	33.2	33.7	34.7	34.7	30.1	30.1	38.2	38.2	32.4	32.4	34.0	33.9	32.6	32.6	32.2	32.1	36.1	36.3
	70:1	14.8	14.8	12.4 dx	12.5	11.6	11.8	12.5	12.7	14.1	14.0	15.6	15.8	15.1	15.2	11.5	11.6	12.1	12.0	12.9	12.7
	71:1	44.1	44.0	26.3 dx	27.0	34.4	34.8	31.9	31.5	37.4	37.8	36.4	37.1	30	30	32.5 dx	32.3	27.9	28	38.5	38.7
	Ang. *	127°	126°	112° dx	111°	120°	120°	118°.5	117°.5	118°	118°	128°	129°.5	123°	123°	122°	122°.5	120°	119°	123°.5	124°
	Alv. *	12°.3	11°.3	12°.9	12°.3	4°.4	4°.5	11°.7	11°.8	3°.5	3°.6	10°.3	10°.9	11°.3	11°.1	8°.9	9°.0	10°.4	9°.1	3°.6	6°.3
	79:1	102°	101°	110°	111°	104°	104°	—	—	92°	91°.5	92°	93°	90°	89°.3	84°	83°	97°.5	97°.5	93°	93°
	79:4	71°.5	72°	69°	69°	68°.3	67°.5	70°.5	69°.5	69°	68°	73°	73°.5	73°	72°	74°	74°	70°	69°.5	77°.5	77°
F	8/1 · 100	72.73	72.22	77.01	77.54	77.65	77.78	77.35	76.92	71.43	71.96	76.80	76.80	75.96	76.37	74.61	74.61	74.21	74.60	76.76	76.63
	17/1 · 100	65.66	66.10	71.66	72.19	72.07	71.67	74.03	73.00	73.02	73.02	76.80	76.80	69.40	69.78	67.36	67.36	74.21	74.60	71.89	72.83
	17/8 · 100	90.28	91.61	93.06	93.10	92.81	92.14	95.71	95.00	102.22	101.47	100.00	100.00	91.37	91.37	90.28	90.28	100.00	100.00	93.66	95.04
	T+I *	111	111	222	222	222	222	222	222	123	123	233	233	211	211	111	111	123	123	222	222
	20a/1 · 100	57.07	57.32	59.89	59.89	62.01	61.94	64.09	63.74	62.43	62.43	61.33	61.88	58.47	58.24	60.10	60.62	62.11	62.43	62.16	62.50
	20a/8 · 100	78.47	79.37	77.78	77.24	79.86	79.64	82.86	82.86	87.41	86.76	79.86	80.58	76.98	76.26	80.56	81.25	83.69	83.69	80.99	81.56
	T+I mod. *	111	111	211	211	221	221	222	222	123	123	211	222	211	211	112	112	123	123	222	222
	29/26 · 100	87.12	87.88	87.50	86.76	87.60	88.33	89.68	89.60	88.64	87.97	88.10	86.61	88.62	90.91	88.81	88.15	86.03	86.67	86.05	86.05
	30/27 · 100	93.04	94.74	94.34	94.39	87.69	87.69	87.88	87.88	89.76	90.55	86.92	86.92	90.60	90.60	87.77	88.49	91.41	90.70	91.41	90.00
	31/28 · 100	77.86	77.86	78.52	78.68	78.51	77.87	85.45	85.14	78.40	78.40	83.05	83.05	80.67	80.67	79.17	80.00	81.30	81.30	81.58	82.30
	9/10 · 100	81.89	80.47	85.60	86.29	(78.51)	(79.17)	81.82	81.15	86.73	87.50	82.35	82.20	82.79	81.97	83.19	82.50	84.17	84.17	81.45	82.93
	9/8 · 100	72.22	72.03	74.31	72.79	68.35	67.86	70.71	70.71	72.99	72.06	70.50	69.78	72.66	71.94	68.75	68.75	71.63	71.63	71.13	72.34
	47/45 · 100	86.99	86.99	78.72	78.72	—	—	82.96	82.22	95.56	94.81	—	—	87.79	88.55	(93.70)	(95.24)	87.60	88.37	—	—
	45/40 · 100 *	143.14	141.75	156.67	156.67	—	—	151.69	151.69	136.36	136.36	—	—	148.86	148.02	(132.29)	(131.25)	137.23	135.77	—	—
	48/40 · 100 *	71.57	70.87	71.11	71.11	72.34	71.81	68.54	69.10	73.74	73.74	70.71	70.00	80.68	79.66	76.04	75.52	71.28	70.00	77.78	76.92
	48/45 · 100 *	(50.00)	(50.00)	(45.39)	(45.39)	—	—	(45.19)	(45.56)	54.07	54.07	—	—	54.20	53.82	(57.48)	(57.14)	51.94	51.55	—	—
	T+I fac. *	(221)	(321)	(321)	(321)	—	—	(311)	(311)	222	222	—	—	332	332	(133)	(133)	221	221	—	—
	52/51 · 100 sin	74.83	76.36	(78.16)	(78.16)	76.76	76.85	—	—	75.29	75.23	76.28	76.62	84.09	83.37	79.31	78.85	75.58	74.71	73.95	72.52
	52/51 · 100 dx	76.92	77.26	(75.38)	(76.15)	(85.71)	(86.22)	82.22	80.24	78.50	78.47	—	—	82.22	81.86	74.94	74.94	71.59	72.94	73.02	73.15
	50/44 · 100	22.14	21.63	(27.45)	(26.47)	(21.21)	(22.00)	—	—	—	—	—	—	25.50	25.23	25.51	24.24	20.00	19.37	22.77	23.27
	54/55 · 100	49.61	49.71	—	—	44.95	44.59	48.89	46.96	47.44	47.17	45.10	45.15	43.27	43.46	49.40	49.60	48.00	48.48	50.49	50.38
	64/63 · 100	—	—	—	—	31.96	33.56	—	—	39.65	39.66	(22.99)	(22.88)	(28.21)	(28.40)	37.21	38.14	30.53	30.79	28.40	28.47
	63/62 · 100	—	—	(97.53)	(97.75)	—	—	(94.05)	(94.05)	92.44	92.44	89.59	88.28	—	—	92.47	93.48	82.22	82.22	—	—
	16/7 · 100	85.00	85.36	79.46	80.16	92.56	92.08	89.65	90.83	84.76	84.85	90.81	91.71	75.06	76.05	80.60	80.77	80.75	82.50	86.20	86.55
G	69/65 · 100	65.00	64.12	—	—	71.79	70.76	69.64	68.98	75.89	76.34	64.41	63.87	65.35	64.91	60.68	59.75	66.39	66.39	60.57	60.57
	66/65 · 100	83.85	83.21	—	—	83.76	82.20	87.05	86.73	89.29	88.39	88.98	88.24	85.96	85.96	80.34	79.66	81.51	80.67	84.55	84.55
	70:1/71:1 · 100	33.56	33.64	47.15	46.30	33.43	34.30	39.18	40.32	37.70	37.04	42.39	42.36	50.33	50.67	35.38	35.91	43.52	43.71	33.34	34.60
	69/Cd-Mt · 100 *	94.39	95.62	—	—	89.11	90.77	89.60	90.40	83.68	83.88	92.19	93.70	97.44	98.28	93.90	96.72	95.20	95.97	105.36	102.50

Craniometric series

Males

		172		175		176		181		182		183		189		190		191		194	
A	38	(1590)	(1500)	(1400)	(1380)	—	—	(1380)	(1360)	1220	1200	1540	1540	1700	1640	1520	1500	—	—	1540	1520
	38 A_1	1456	1420	1405	1400	1372	1375	1510	1515	1340	1336	1471	1478	1479	1472	1444	1446	1511	1511	1497	1497
	38 A_2	1422	1429	1392	1387	1435	1429	1514	1511	1289	1284	1416	1422	1554	1557	1386	1390	1454	1454	1461	1461
	1	178	179	188	187	190	189	188	187	176	175	182	183	195	195	185	182	188	188	191	191
	5	172	173	173	173	183	185	184	184	170	169	174	174	189	189	176	176	183	183	181	180
	2	171	173	163	168	181	180	179	178	171	171	180	180	183	183	176	176	176	179	185	185
	2a	168	169	177	178	176	175	175	175	165	166	176	176	178	178	172	172	174	174	180	180
	29	118	118	102	102	118	118	117	117	101	101	115	114	118	117	104	105	115	116	109	109
	30	109	109	110	110	117	116	122	121	113	114	109	109	121	121	115	114	115	115	116	115
	31	99	99	92	93	93	93	95	95	98	98	98	98	99	99	99	99	99	100	99	100
	5	97	97	97	96.5	91	91	103	103	98	98.5	103	103	98	98	104	104	103	103	104	104
	8	146	146	142	142	141	141	145	145	134	138	142	142	146	145	141	141	145	145	145	145
	9	103	103	97	97	95	95	93	93	97	97	97	97	98	98	100	100	99	99	103	103
	10	127	127	122	121	117	117	121	121	112	112	(123)	(122)	125	125	123	122	124	124	122	121
	11	137	138	132	126	131	131	127	127	125	125	127	127	135	134	130	129	131	130	133	132
	12	(113)	(114)	106	105	110	112	112	111	107	108	115	114	115	116	104	105	117	119	116	118
	13	115	114	109	109	111	110	107	106	103	102	110	111	107	106	110	110	106	106	112	112
	17	135	136	124	123	119	120	137	137	130	130	138	138	126	126	134	135	136	136	132	132
	20A	115	116	106	106	111	111	117	118	108	108	115	115	117	118	111	111	112	112	110	110
	20b	112	112	106	106	110	110	116	117	107	106.5	112	112	115	116	109	110	110	110	109	109
	21	113	112	106	106	110	110	116	117	109	109	111	111	115	117	111	112	110	110	111	110
	7	37.0	37.5	(34)	(35.5)	36.4	36.6	37.9	37.8	35.5	36.6	38.2	38.3	42.2	42.3	36.2	35.4	34.8	34.8	37	37
	16	32.4	32.4	(30)	(30)	32.7	32.3	27.0	27.0	32.0	32.1	31.2	31.2	34	34.2	30.4	30.0	36	35.7	31.8	33.6
B	23	527	525	530	541	528	526	528	528	505	506	519	520	545	546	517	518	535	535	536	536
	24	330	328	312	318	313	315	334	334	302	301	326	327	335	338	315	317	325	325	310	319
	25	368	369	366	367	388	388	384	384	350	351	370	370	390	390	368	368	377	377	373	374
	26	130	132	116	116	137	137	136	138	116	116	130	130	135	134	122	122	130	131	121	121
	27	120	120	122	122	132	132	135	130	125	126	120	119	135	135	130	129	127	127	127	129
	28	118	117	128	128	119	119	114	114	109	109	120	121	120	121	116	117	120	119	125	124
C	40	(93)	(94)	(87)	(87)	(87)	(87.5)	(94)	(94)	93	93.5	96	96.5	93	94	94	94.5	—	—	97	97
	47	123	123	122	122	(126)	(124)	117	116	112	113	121	121	124	124	112	112	—	—	125	125
	48	(73)	(74)	73	73.5	(79)	(78)	72	72	69	69	72	72	78	77.5	67	67	—	—	78	78
	43	111	111	104	104	101	101	99	99	106	106	101	102	104	105	104	105	105	106	109	109
	43(1)	99	100	95	95	94	94	91	91.5	95	96	91	91	95	95	97	98	96	96	101	101
	44	101	102	96	97	96.5	97	92.5	92	96	97	93	94	97	97.5	98	98	—	—	101	102
	49	(25)	(24)	23	23	26	26	(23)	(23)	22.5	22	23	22.5	—	—	28	28	—	—	26.5	27
	50	—	—	21.5	21	—	—	16.5	17.5	17.8	18	(20)	(19)	20.5	20.5	23.8	23.5	(22)	(20.5)	24	23.5
	45	(138)	(138)	(129)	(128)	(130)	(130)	(132)	(133)	131	131	131	132	140	140	—	—	—	—	141	140
	46			90	92	98	97	89	89	94	95	87	88	97	98	(93)	(94)	—	—	103	105
	54	—	—	23.4	23.7	25.6	25.8	22.8	22.5	24.5	24.5	21.0	21.0	22.4	22.9	23.8	24	—	—	26	25.5
	55	57	57	53	52.5	(59)	(60)	54	54	51	52	50	49.5	56	56	50	50	—	—	55	54.5
	51 sin	—	—	41.5	42	(39)	(39.5)	42.5	42.4	43.8	44.1	40	40.2	43	43.5	42	42.4	43	42.8	42.3	42.6
	51 dx	43.6	43.9	42.8	42.7	(39)	(39.5)	40.0	40.0	43.8	43.5	41.2	41.6	43	43.4	42	42.4	—	—	42.3	42.5
	52 sin	(34)	(34)	34.5	34.6	(36)	(36)	34.8	35.0	32.7	33.0	35.4	35.8	36.9	37.2	33.3	33.1	38.2	38.2	36	36.1
	52 dx	37	37.1	33.5	33.9	(36)	(36)	35.9	36.1	33.5	33.2	34	34.2	36.4	36.7	32.0	32.2	—	—	36	36.3
	62	(46)	(46.5)	45	45	—	—	49.3	49.1	45.5	45.3	47.5	47.8	45	45.5	44	44	—	—	48	48.1
	63	45.8	45.8	38.5	38.2	(37)	(37.5)	37.5	37.5	40.5	40.8	42	42	39.3	39.2	43.1	43.4	—	—	44	44
	64	14.5	14.4	14	14.3	—	—	13.3	13.2	13.0	13.2	15.8	15	15.5	15.7	12.2	12.6	—	—	13.2	13.5
D	72	82°	81°	89°	91°	(91°)	(92°)	89°	88°	83°	84°	83°	84°	91°	92°	88°	88.5	—	—	89°	89°
	72:5	(45°.5)	(45°.5)	(46°.3)	(46°.8)	(51°.9)	(51°.6)	(42°.6)	(42°.6)	42°.8	42°	42°.2	42°.2	46°.1	47°.6	39°.1	39°.1	—	—	45°.5	45°.5
	73:5	(64°.1)	(65°.1)	(59°.6)	(59°.8)	(61°.6)	(61°.8)	(62°)	(62°)	65°	65°.1	65°.3	64°.1	62°.6	63°.5	62°.4	62°.8	—	—	62°.5	62°.5
	74:5	(70°.4)	(69°.6)	(74°.1)	(73°.6)	(66°.3)	(66°.4)	(73°.4)	(75°.4)	72°.8	72°.5	74°.1	73°.7	69°.3	68°.9	78°.3	78°.1	—	—	72°	72°
E	65	120	121	121	121	124	124	125	123	116	116	122	123	120	121	120	121	121	122	125	126
	66	107	106	92	91	100	99	96	95	99	98	96	96	105	104	102	101	101	101	101	101
	68*	84.5	85	83	83	80	80	72	72	75	75	79	78.5	73.5	73.5	72	72	81	81	88.5	88
	Cd-Mt*	132	131	126	126	136	136	120	120	123	123	124	122	124	124	117	117	128	129	132	132
	69	34.4	34.5	32.8	33.0	34.2	34.1	32.8	32.8	33.3	33.7	37.9	38.0	32.1	32.5	32.2	32	—	—	34.9	35.0
	P_1H_1*	34.8	34.7	32.6	32.5	35.0	35.2	33.3	33.2	31.5	31.6	31.1	31.2	29.2	29.5	30.2	29.9	35.2	35.1	34.6	34.9
	M_1H_1*	29.6	29.7	27.4	27.5	29.1	28.8	32.3	32.2	28.8	28.6	28.8	28.6	27.2	27.5	28.0	28.0	29.6	29.6	29.1	29.2
	M_1P_1*	29.7	30.0	28.4	28.8	27.8	27.3	24.4	24.6	27.5	27.3	29.4	29.6	28.2	28.1	27.9	27.3	26.6	26.1	29.7	29.5
	69(3)	10.7	10.9	10.5	10.4	12.6	12.5	12.0	12.3	11.9	11.7	12.8	12.6	10.7	10.8	10.2	10.5	10.7	10.8	12	12
	Cd-Gn*	66	66	66	67	75	75	67.5	67.5	68.5	68	67.5	67.5	66	66	64	64	66.5	67	65.5	66.5
	71	36.1	36.0	34.6	34.6	33.2	33.6	33.0	33.1	28.8	28.9	32.4	32.3	29.8	29.6	34.5	34.6	33.1	33.2	37.7	38
	70(3)	13.4	13.3	12.9	12.8	12.7 dx	12.6	14.9	14.6	13.5	13.6	14	14	13.7	13.9	14.2	14.5	16.0 dx	16.0	15.6	15.6
	71(1)	31.8	32.0	32.0	32.2	29.3 dx	29.3	37.6	37.6	28.9	28.8	29.3	29	31.6	31.6	29.5 dx	29.4	30.3 dx	30.0	34.5	34.4
	Ang.*	121°	121°	114°.5	113°.5	122°.5	123°	118°	118°	113°	113°.5	112°.5	113°	124°	125°	113°	117°.5	120°	120°	117°	116°
	Alv.*	10°.5	9°.5	10°.4	10°.0	13°.5	13°.2	1°.2	1°.2	5°.5	5°.8	4°.3	8°.4	5°	4°.3	4°.2	3°.9	11°.6	11°.6	12°.8	12°.2
	79(1)	108°	107°	106°.5	106°	104°	104°	88°	88°	102°	104°	99°	99°	97°	96°	88°.5	78°.5	—	—	92°	92°
	79(4)	69°	69°.5	68°	65°.5	69°.5	69°.5	75°.5	74°.5	72°.5	73°	59°	60°.5	79°	79°	76°.5	76°.5	71°	71°	58°.5	65°
F	8/1 · 100	82.02	81.56	75.53	75.94	74.21	74.60	77.13	77.54	76.14	76.57	78.02	77.60	74.87	74.36	77.03	77.47	77.13	77.13	75.92	75.92
	17/1 · 100	75.84	75.98	65.96	66.31	62.63	63.49	72.87	73.26	73.86	74.29	75.82	75.41	64.62	64.62	72.22	74.18	72.34	72.34	69.11	69.11
	17/8 · 100	92.47	93.15	87.32	87.32	84.40	85.11	94.48	94.48	97.01	97.01	97.18	97.18	86.30	86.90	95.04	95.74	93.79	93.79	91.03	91.03
	Tr I*	331	331	211	211	111	111	222	222	222	222	232	222	111	111	222	222	222	222	211	211
	20a/1 · 100	64.61	64.80	56.38	56.68	58.42	58.73	62.23	63.10	61.36	61.71	63.19	62.84	60.00	60.51	60.00	60.99	59.57	59.57	57.59	57.59
	20a/8 · 100	78.77	79.45	74.65	74.65	78.72	78.72	80.69	81.38	80.60	80.60	80.99	80.99	80.14	81.38	78.72	78.72	77.24	75.86	75.86	75.86
	Tr I mod.*	321	321	211	211	111	111	222	222	212	222	222	222	112	112	211	211	211	211	211	211
	29/26 · 100	88.46	87.12	87.93	87.93	86.86	86.86	86.67	86.67	87.07	87.07	88.46	87.69	87.41	87.31	85.25	86.07	88.46	88.55	89.26	89.26
	30/27 · 100	90.83	90.83	90.16	90.16	88.64	87.88	90.37	89.63	92.00	91.27	90.83	91.60	89.63	89.63	88.46	88.37	90.55	90.55	91.34	89.15
	31/28 · 100	83.90	84.62	71.88	72.09	78.15	78.15	83.33	83.33	82.57	82.57	81.50	81.82	82.50	81.82	85.34	84.62	82.50	84.03	79.20	80.65
	9/10 · 100	81.10	81.10	79.51	80.17	81.20	81.20	76.86	76.86	86.61	86.61	(78.86)	(79.51)	77.17	78.40	81.30	81.97	79.84	79.84	84.43	85.12
	9/8 · 100	70.55	70.55	68.31	68.31	67.38	67.38	64.14	64.14	72.39	72.39	68.31	68.31	67.12	67.59	70.92	70.92	68.28	68.28	71.03	71.03
	47/45 · 100	(89.13)	(89.13)	(94.57)	(95.31)	(92.65)	(91.18)	(88.64)	(87.22)	85.50	86.26	92.37	91.67	88.57	88.57	—	—	—	—	88.65	89.29
	49/40 · 100*	(148.39)	(146.81)	(148.28)	(147.13)	(156.32)	(153.43)	(140.43)	(144.49)	140.86	140.11	136.46	136.79	150.54	148.94	—	—	—	—	145.36	144.33
	48/40 · 100*	(78.49)	(78.72)	(83.91)	(84.48)	(89.66)	(89.14)	(76.60)	(76.60)	74.19	73.89	75.00	74.61	83.87	82.45	71.28	70.90	—	—	80.41	80.41
	38/45 · 100*	(62.90)	(61.62)	(56.59)	(57.42)	(57.35)	(57.35)	(54.55)	(54.14)	52.67	52.67	54.96	54.55	55.71	55.36	—	—	—	—	55.32	55.71
	Tr I lac.*	(332)	(322)	(333)	(333)	(333)	(333)	(333)	(333)	322	322	233	333	333	333	—	—	—	—	333	333
	52/51 · 100 sin	—	—	83.13	82.38	(92.31)	(91.14)	81.88	82.55	74.66	74.83	88.50	89.05	85.81	85.52	79.29	78.07	88.84	89.25	85.11	84.74
	52/51 · 100 dx	84.86	84.61	78.27	79.44	(92.31)	(91.14)	89.75	90.25	76.55	76.32	82.52	82.21	84.65	84.56	76.19	75.94	—	—	85.11	85.41
	50/44 · 100	—	—	22.40	21.65	—	—	17.88	19.02	18.54	18.56	(21.51)	(20.21)	21.13	21.03	24.29	23.98	—	—	23.76	23.04
	54/55 · 100	—	—	44.15	45.14	(43.39)	(43.00)	42.22	41.30	47.06	47.12	42.00	42.42	40.36	40.89	47.60	48.00	—	—	47.27	46.79
	64/63 · 100	31.66	31.44	36.36	37.34	—	—	35.47	35.20	32.10	32.35	36.90	35.71	39.44	40.05	28.31	29.03	—	—	30.00	30.68
	63/62 · 100	(99.57)	(98.49)	85.56	85.11	—	—	82.42	83.15	89.01	89.67	88.42	88.42	87.33	86.15	97.95	98.64	—	—	91.67	91.48
	16/7 · 100	87.57	86.40	88.23	84.51	89.84	88.25	71.43	71.43	87.61	87.70	81.68	81.46	80.38	80.85	86.38	86.16	103.45	102.59	85.95	85.41
G	68/65 · 100	70.42	70.25	68.60	68.60	64.52	64.52	58.54	58.54	64.66	64.66	64.75	63.82	61.25	60.74	60.00	59.50	66.94	66.39	70.80	69.84
	66/65 · 100	89.17	87.60	76.03	75.21	80.65	79.84	76.80	77.24	85.34	84.48	78.69	78.05	87.50	85.95	85.00	83.47	83.47	82.79	80.80	80.16
	70(3)/71(1) · 100	42.14	41.56	40.00	39.75	43.34	43.00	39.15	39.36	46.71	47.22	47.78	48.28	43.35	43.67	48.14	49.32	44.05	44.44	45.22	45.35
	65/Cd-Mt · 100*	90.91	92.37	96.03	96.03	91.18	91.18	102.50	102.50	94.31	94.31	100.00	100.82	96.77	97.58	102.56	103.42	94.53	94.57	94.70	95.45

Table 23 (continued)

Craniometric series

Males

		195a		200a		201		202		208b		211		213		223		"MJ"
A	38	1430	1430	1500	1480	1500	1480	1440	1440	1500	1480	1500	1500	1500	1486	1400	1400	—
	38 d1	1420	1415	1452	1455	1390	1390	1455	1437	1456	1450	1444	1449	1485	1487	1454	1455	1311
	38 d2	1446	1436	1481	1485	1357	1393	1392	1371	1443	1425	1419	1434	1444	1487	1412	1416	1452
	1	181	181	187	186	186	182	185	184	187	187	179	180	192	192	189	188	188
	3	173	172	173	173	176	174	177	177	182	181	175	175	182	182	178	177	172
	2	168	168	184	184	177	177	180	180	175	174	177	177	186	186	188	188	183
	2a	164	165	179	179	173	173	174	174	170	170	168	168	183	182	—	—	179
	29	112	112	109	110	110	110	113	113	112	112	115	115	116	116	—	—	112
	30	106	106	109	116	107	101	103	106	114	114	111	113	110	110	109	110	101
	31	98	98	99	100	92	92	101	101	99	100	95	95	106	106	97.5	98	102
	5	100	100	98	98	102	102	104	104	101	100	101	101	103	103	—	—	110
	8	142	142	148	148	143	143	139	137	143	142	141	141	146	145	140	141	144
	9	99	99	97	97	100	100	94	93	105	100	95	95	102	102	95	95	99.5
	10	—	—	133	132	126	127	119	119	120	120	119	119	122	122	121	121	116
	11	131	129	130	130	127	128	129	128	129	127	122	122	130	129	126	126	132
	12	113	114	111	112	115	115	117	112	116	114	112	112	117	118	117	116	108
	13	102	102	109	109	109	111	111	109	102	102	101	101	108	109	108	109	(113)
	17	131	130	128	127	125	125	136	136	131	131	137	137	130	130	132	132	140
	20a	116	115	111	112	109	109	110	110	112	112.5	116	117	112	112	111	110	115
	20b	114	113	111	110.5	108	108.5	109	109.6	111	110	115	116	110	111	109	108	111
	21	118	117	112	112	108	108	113	114	112	111	116	117	112	112	109	109	113
	7	36.2	36.4	38	37.7	34.8	34.8	34.5	34.8	38.0	38.8	34.4	34.6	37.6	37.8	40	39.9	37.5
	16	32.4	32.5	32.6	32.5	31	31	32.2	32.5	32.1	32.2	32.7	32.7	32.1	32.2	33.2	33.1	32.3
B	23	(520)	(518)	538	536	527	525	517	517	527	530	514	516	546	547	526	528	523
	24	(321)	(321)	330	332	317	317	312	315	316	316	333	330	322	321	317	319	334
	25	360	361	379	378	361	361	373	373	368	369	367	369	382	382	—	—	357
	26	125	126	128	128	127	127	131	131	125	125	130	131	130	130	—	—	126
	27	116	116	120	120	117	118	120	120	125	125	127	127	120	119	121	121	110
	28	121	121	130	130	117	116	122	122	119	119	110	111	132	133	119	119	123
C	40	98	98	89	89	97	97	94	94	—	—	96	95.5	96	97	—	—	99.8
	47	123	122	121	120	117	118	112	113	—	—	117	117	115	115	—	—	115
	48	72	72	74	74	64	64	68	68	69	69	68	68	71	71	—	—	71.5
	43	108	108	108	108	107	107	103	103	114	114	103	104	109	108	108	108	114
	43(1)	99	100	102	101	97	98	97	98	104	105	95	95.5	102	101	101	101	103
	44	100	100	103	104	99	100	—	—	—	—	96.5	96.5	101	102	—	—	—
	49	23.8	23.5	29	29	28	27.5	23.5	24	(27)	(28)	—	—	26	26.5	—	—	25.3
	50	20	20	(24)	(24)	25.5	24.5	20.3	20	—	—	—	—	21	21.5	—	—	21.4
	45	135	134	(135)	(135)	139	139	(136)	(136)	—	—	130	131	134	134	—	—	—
	46	94	99	98	100	90	91	(92)	(92)	—	—	92	92	99	99	—	—	—
	54	26.3	26.5	(23.5)	(24)	24.5	24.4	24	23.7	—	—	23.1	23	25.5	25.8	—	—	26.8
	55	53	53	56	56.5	53.5	53	52.5	53	(53)	(53)	51	51	53.8	53.5	—	—	52.8
	51 sin	43.7	43.6	43.3	43	42	41.8	—	—	—	—	—	—	43	43.3	—	—	—
	51 dx	43.7	44.3	43.3	44	42	42.3	42.5	42.8	—	—	42.5	42.7	44.1	44.2	—	—	46.9
	52 sin	33.4	33.4	36.2	36.7	34.3	34.4	34.5	34.6	35.2	35.2	—	—	36.4	36.3	—	—	—
	52 dx	33.9	33.8	34	33.9	32.9	33.5	34.5	34.6	—	—	—	—	36.7	36.2	—	—	33.8
	62	46	45.5	42	42.1	46.6	46.1	44	43.5	—	—	—	—	44	44	48.8	48.9	—
	63	43.3	43.4	47	46.8	41	40.5	41	40.8	—	—	(37)	(38)	45	46	43.9	43.5	(42)
	64	15.2	15.6	14.8	14	8	8.8	11	11.2	—	—	—	—	9.6	10.3	13	13.1	(13)
D	72	86°	86°	90°	91°	84°	85°	86°	87°	—	—	87°	89°	87°	88°	—	—	83°
	72:5	45°5	45°5	46°3	46°3	37°4	37°8	39°8	39°8	—	—	40°3	40°4	41°6	41°5	—	—	39°5
	73:5	62°5	62°5	60°4	60°4	67°1	67°1	62°8	62°5	—	—	65°9	65°4	63°9	64°1	—	—	62°5
	74:5	72°	72°	73°3	73°3	75°5	75°8	78°	78°	—	—	73°8	74°2	74°5	73°8	—	—	78°
E	65	123	123	124	124	116	117	121	122	—	—	122	122	115	115	—	—	128
	66	100	99	113	113	98	98	104	103	—	—	99	99	90	90	103	105	93
	68*	79	78.5	77.5	77	79.5	79.5	77.5	77	—	—	74	73.5	78	78	—	—	89
	Cd-Mt*	127	126	131	130	123	123	124	124	—	—	121	122	125	125	—	—	129
	69	38.6	38.6	33.1	33.1	31.1	31	27.8	28	—	—	33	33.2	31.8	32	—	—	33.5
	P_1H*	36.4	36.5	35.7	35.5	29.4	29.6	31.4	31.3	—	—	32.7	32.8	33.2	33.2	34.7 dx 34.2		33.6
	M_1H*	29	28.9	32.8	32.7	28.5	28.5	24.6	24.8	—	—	28.2	28.2	26.6	26.4	26.3 dx 27		31.3
	M_2P_1*	27.5	27.3	26.8	26.1	26.4	26.1	29.9	30	—	—	27.4	27.1	31	31.2	28.6 dx 28.9		24.5
	69:3	12.8	12.8	11.7	11.6	12.2	11.9	12.2	12.3	—	—	11.4	11.4	12	12.1	11.4	11.1	12.7
	Cd-Go*	62.5	65	75	76	63.5	64	63.5	64	—	—	63	64	64	64	—	—	69
	71	36.7	37.1	32.7	32.9	33.8	34.1	32.9	33	—	—	32.8	32.9	35	35.2	35.4	35.4	41
	70:3	15	15	14	14	16	16.1	15.9	16.1	—	—	15.6	15.5	12.4	12.4	—	—	14.3
	71(1)	36.7	36.4	32	32	32.1	32.1	33.1	33.2	—	—	31.7	31.7	36.8	36.5	—	—	34.6
	Ang.*	127°	126°	118°	117°	117°5	117°	122°	121°	—	—	124°5	124°	123°	122°5	—	—	108°
	Asy.*	15°8	16°8	7°5	7°5	2°8	2°	13°	13°3	—	—	9°1	9°1	12°4	12°0	15°2	15°2	4°2
	79:5	96°	95°	99°	98°5	96°	95°	86°	86°	—	—	96°	89°	98°	98°	—	—	107°
	79:6	66°	67°	80°	79°	64°	65°	72°	72°	—	—	73°	73°	67°5	67°	67°	66°	61°5
F	8/1 · 100	78.45	78.45	79.14	79.57	78.57	78.57	75.14	74.46	76.47	75.94	78.77	78.33	76.04	75.52	74.07	75.00	78.26
	17/1 · 100	72.38	71.82	67.38	68.28	68.68	68.68	73.51	73.91	70.05	70.05	76.54	76.11	67.71	67.71	69.84	70.21	76.10
	17/8 · 100	92.25	91.55	85.14	85.81	87.41	87.41	97.84	99.27	91.61	92.25	97.16	97.16	89.04	89.66	94.29	93.62	97.22
	Tr-I*	222	221	211	311	221	211	122	121	211	212	232	232	211	211	112	112	232
	20a/1 · 100	64.09	63.54	59.36	60.22	59.89	59.89	59.46	59.78	59.89	60.16	64.80	65.00	58.33	58.33	58.73	58.51	62.50
	20a/8 · 100	81.69	80.99	75.00	75.68	76.22	76.22	79.14	80.29	78.32	79.23	82.21	82.98	76.71	77.24	79.29	78.01	79.86
	Tr I mod.*	222	222	211	211	211	211	111	112	211	211	222	232	211	211	111	111	221
	29/26 · 100	89.60	88.89	85.16	85.94	86.61	86.61	86.26	86.26	89.60	89.60	88.46	87.79	89.23	89.23	—	—	88.89
	30/27 · 100	91.38	91.38	90.83	90.00	91.45	90.68	89.17	88.33	91.20	91.20	88.98	88.98	91.67	92.44	90.08	90.91	91.82
	31/28 · 100	80.99	80.99	76.15	76.92	78.63	79.31	82.79	82.79	83.90	84.03	86.36	85.59	80.30	79.70	81.93	82.35	82.93
	9/10 · 100	—	—	72.93	73.48	79.37	78.74	78.99	78.15	87.50	87.50	79.83	79.83	83.61	83.61	78.86	76.86	85.60
	9/8 · 100	69.72	69.72	65.54	65.54	69.93	69.93	67.63	67.88	73.43	73.94	67.38	67.38	69.86	70.34	66.43	65.96	68.96
	47/45 · 100	91.11	91.04	(89.63)	(88.89)	84.17	84.89	(85.29)	(85.00)	—	—	90.00	89.31	85.82	85.82	—	—	—
	45/40 · 100*	137.76	136.73	(151.69)	(151.69)	143.30	143.30	(144.68)	(144.68)	—	—	135.42	137.17	139.58	138.14	—	—	—
	48/40 · 100*	73.47	73.47	83.15	83.15	65.98	65.98	72.34	72.34	—	—	70.83	71.20	73.96	73.20	—	—	71.64
	48/45 · 100*	53.33	53.73	(54.81)	(54.81)	46.04	46.04	(50.00)	(50.00)	—	—	52.31	51.91	52.99	52.99	—	—	—
	Tr-I fac.*	221	222	(333)	(333)	311	311	(331)	(331)	—	—	222	221	322	222	—	—	-2-
	52/51 · 100 sin	76.43	76.61	83.60	85.35	81.67	82.30	—	—	—	—	—	—	84.65	83.83	—	—	—
	52/51 · 100 dx	77.57	76.30	78.52	77.05	78.33	79.20	81.18	80.84	—	—	—	—	83.22	81.90	—	—	72.07
	50/44 · 100	20.00	20.00	23.30	23.08	25.76	24.50	—	—	—	—	—	—	20.79	21.08	—	—	—
	54/55 · 100	49.62	50.00	(41.96)	(42.48)	45.79	46.04	45.71	44.72	—	—	45.29	45.10	47.40	48.22	—	—	50.76
	64/63 · 100	35.10	35.94	31.49	29.91	19.51	21.72	26.83	27.45	—	—	—	—	21.33	22.39	29.61	28.84	(30.95)
	63/62 · 100	94.13	95.38	(111.90)	(111.16)	87.98	87.85	93.18	93.79	—	—	—	—	102.27	104.55	89.96	88.96	—
	16/7 · 100	89.50	89.29	85.79	86.21	89.08	89.08	93.33	93.39	82.16	82.99	95.06	94.51	85.37	85.19	83.00	82.96	86.13
G	68/65 · 100	64.23	63.82	62.50	62.10	68.53	67.95	64.05	63.11	—	—	60.66	60.25	67.83	67.83	—	—	69.53
	66/65 · 100	81.30	80.49	91.13	91.13	84.48	83.76	85.95	84.43	—	—	81.15	81.15	78.26	78.26	—	—	72.66
	70:3/71(1) · 100	40.87	41.21	43.75	43.75	49.84	50.16	48.04	48.49	—	—	49.21	48.90	33.70	33.97	—	—	41.33
	65/Cd-Mt · 100*	96.85	97.62	94.66	95.38	94.31	95.12	97.58	98.39	—	—	100.83	100.00	92.00	92.00	—	—	99.22

CRANIOMETRIC SERIES

FEMALES

	Index (Grave) No.	1		4		11		15		17		19		22		31		41		24	
A	38	1320	1310	(1280)	(1250)	—	—	1320	1320	1360	1360	—	—	1460	1400	1326	1308	1360	1340	—	—
	38 d_1	1327	1322	1279	1287	1279	1276	1322	1321	1317	1314	—	—	1457	1356	1290	1286	1312	1309	1362	1362
	38 d_2	1304	1309	1282	1291	1291	1265	1291	1290	1325	1319	—	—	1348	1345	1257	1241	1347	1339	1433	1433
	1	176	177	179	179	175	175	184	185	183	182	—	—	186	183	190	190	190	190	185	185
	5	171	171	169	171	165	167	174	176	177	176	—	—	179	179	171	171	177	178	178	176
	2	169	170	171	171	167	168	173	174	181	180	—	—	179	179	177	177	180	182	169	170
	2a	167	167	167	167	166	167	168	169	179	177	—	—	172	171	175	175	175	176	167	167
	29	111	111	103	105	104	104	112	113	114	114	—	—	113	112	104	108	113	113	111	108
	30	108	108	107	107	97	95	104	105	111	112	—	—	116	116	114	114	111	111	114	110
	31	98	97.5	94	94	101	102	94	94	102	101	—	—	103	102	94	94	99	99	96	95
	5	(99)	(97.5)	(99)	(98)	98	98	100	101	97	97	—	—	94	95	100	100	94	94	103	103
	8	140	140	136	136	139	138	140	139	135	135	—	—	137	136	133	132	134	133	149	149
	9	92	92	96	96	(90)	(92)	98	98	103	103	—	—	91	91	94	94	100	100	101	101
	10	115	115	120	119	(120)	(120)	116	116	123	122	—	—	114	113	113	113	115	115	—	—
	11	119	119	121	121	117	116	127	126	123	128	—	—	119	119	119	119	120	118	118	120
	12	111	108	(110)	(108)	104	103	(110)	(113)	110	112	—	—	109	112	109	110	116	117	109	107
	13	103	103	100	101	98	99	104	104	105	108	—	—	97	96	97	96	103	103	97.5	97
	17	134	132	123	125	123	123	127	127	131	131	—	—	137	137	128	128	126	126	128	128
	20a	109	109	108	109	107	107	107	107	111	111	—	—	110	110	109	109	110	110	112	112
	20b	107	107	105	105	103	103	101	101.5	110	110.5	—	—	110	110	109	109	106	106.5	109	108
	21	110	110	114	114	110	108	104	104	109	109.5	—	—	111.5	112.5	111	108.5	114	114	112	112
	7	35	36.5	39.6	39.6	(33.5)	(33.5)	34.8	34.8	31.9	32.3	—	—	35.3	35.2	34	34	35.4	35.4	36	36.2
	16	30	30.5	—	—	—	—	29	29.1	32.1	32.2	—	—	(31)	(31.5)	—	—	29.6	29.7	30.2	29.9
B	23	507	507	505	506	(499)	(494)	520	520	515	514	—	—	515	517	506	504	525	527	527	528
	24	309	310	305	307	305	308	310	311	316	316	—	—	308	310	305	306	316	316	331	332
	25	360	360	349	349	349	349	363	365	374	375	—	—	385	385	364	362	383	384	367	366
	26	126	126	118	118	116	116	131	130	130	130	—	—	130	129	117	116	130	130	126	126
	27	120	118	118	118	106	106	115	115	123	123	—	—	131	132	129	129	121	121	124	123
	28	114	116	113	113	127	127	117	118	121	122	—	—	124	124	118	117	132	132	117	117
C	40	(93)	(94)	(98)	(99)	96	96	95	96	89	90	—	—	88	88	91	92	—	—	95.5	96
	47	116	116	97	91	106	105	109	110	111	111	—	—	117	117	(105)	(106)	—	—	111	112
	48	74	74	61	62	67	68	69	70	69	69	—	—	68	68	67	69	—	—	71.7	72.0
	43	98	98	100	100	97	98	108	108.5	108	108	—	—	103	103	103	105	106	106	104	104
	43(1)	92	92	92	92	91	91	99	100.5	100	101	—	—	97	98	95	95	100	100	97	97
	44	94	93	92	93	93	94.3	100	101	99	100.5	—	—	99	100	—	—	—	—	97	97
	49	25	25	27	26.5	(24)	(24)	27	27	26.5	27	—	—	26	26	25	24.2	26.8	26	—	—
	50	—	—	24	25	(19)	(19.3)	21.3	22.5	24.7	24.3	—	—	21	21	22.5	23	—	—	—	—
	45	124	125	130	126	120	120	125	128	(133)	(132)	—	—	130	131	—	—	—	—	—	—
	46	96	97	89	91	89	91	100	101	93	93.5	—	—	101	101	—	—	—	—	89.5	96
	54	23.2	25	25.3	25.5	22.4	22.5	25.5	25.5	22.4	22.4	—	—	29	29.2	(24)	(25.8)	—	—	24.5	24.3
	55	55	54	47.5	47	51	51	49.5	49	52.5	53	—	—	51	51.5	50	50.5	—	—	52	52.5
	51 sin	41	40.6	39	38.2	40.3	40	42.5	42.5	42.0	42.0	—	—	44	44	—	—	—	—	39	38.9
	51 dx	—	—	39	38.5	40.8	40.4	43.5	41.2	42.6	43.2	—	—	44	44	39	38.9	—	—	—	—
	52 sin	34.2	34.0	29.4	29.7	32.5	32.6	32.1	32	34.8	34.7	—	—	35	34.6	—	—	—	—	38	38
	52 dx	35.6	35.8	29.2	29.7	(34.5)	(34.7)	32.3	32	35.0	35.0	—	—	34.7	34.5	33.1	32.2	—	—	37.3	37
	62	47	47.3	41	40.5	(41)	(41)	46	46.3	—	—	49	49	43	42.6	44.5	44.1	—	—	44	43.7
	63	38	38	36.5	36.5	37.0	37.7	42.4	42.7	40.5	41	(38)	(38)	38.4	38.4	—	—	—	—	40.8	41
	64	9.1	9.1	10.8	10.8	7.5	8	12.5	12.1	14.2	13	—	—	(10)	(10)	—	—	—	—	(11.8)	(12.1)
D	72	82°	83°	85°	85°5	82°	80°5	84°	85°5	87°	87°5	—	—	86°	83°5	85°	86°5	—	—	89°	87°5
	72:5	(45°2)	(45°4)	(36°1)	(36°9)	40°4	41°6	41°5	41°5	43°1	43°1	—	—	43°8	43°8	40°7	41°2	—	—	42°2	42°2
	75:5	(63°1)	(64°8)	(71°0)	(72°4)	68°2	67°9	65°5	65°4	62°2	63°	—	—	63°4	62°5	62°4	63°1	—	—	63°3	63°7
	72:5	(71°7)	(69°8)	(72°9)	(70°7)	71°4	71°3	73°2	73°1	74°5	73°9	—	—	72°8	73°6	74°9	75°7	—	—	74°5	74°1
E	65	102	102	109	110	—	—	118	118	122	122	(122)	(122)	109	109	112	113	—	—	116	117
	66	86	86	84	84	92	92	96	96	89	90	94	95.5	91	91	99	99	94.5	95	89	90
	68 *	76	75	77	77.5	76	76	80.5	80.5	76	76	84	84	73	74	76	69.5	—	—	71.5	71.4
	Cd-Mt *	117	117	111	110	112.5	112	121	122	123.5	124	129	130	123	125	117	118	—	—	112	112
	69	31.3	32	24.1	24.1	29.1	29.2	32.3	32.3	30.6	30.4	33	33.5	29.2	29.2	31.8	32.5	—	—	28.5	29
	P_1H *	33.0	32.8	26.2	25.9	25.9	25.8	32.9	33.0	30.6	30.5	36.2	dx 36.4	27.2	27.2	31.2	31.4	—	—	29.0	29.0
	M_1H *	29.9	30.0	24.2	24.4	19.8	20.1	24.8	24.7	28.4	28.7	28.2	dx 28.5	21.3	21.8	—	—	—	—	26.2	26.0
	M^2P^1 *	28.9	28.8	25.5	25.5	26.4	27.8	27	27	25.7	26.3	27	dx 26.7	28.3	28.5	—	—	—	—	27.2	27.5
	69(3)	13.3	13.0	10.7	10.5	11.9	11.9	12.2	11.9	11.7	10.5	10.3	10.4	9.5	8.8	12.3	11.7	9.0	8.7	12.5	11.9
	Cd-Go *	67	66.5	61	60.5	53	dx 52	59	60	66.5	64.5	58	58	64	65	66.5	66.5	—	—	64	63
	71	33	33	32.6	32.5	30.4	30.4	35.8	35.9	35.2	35.1	34	33.8	25.3	25.2	33.5	34.6	—	—	32.6	32.7
	70:5	dx 11.1	11.1	10.4	10.5	9.6	dx 9.3	12.1	12.1	13.6	13.4	13	12.4	15.1	15.4	14.3	14.5	13.8	13.8	12.4	12.2
	71:1	dx 32.6	33.6	33.3	33.7	33.3	dx 33.6	39.2	39.4	38.8	38.9	33	33.1	30.4	31.5	35.6	36.6	26.5	26.2	39.5	39.6
	Ang. *	110°	111°5	106°	105°5	120°	dx 121°5	120°	119°5	117°	117°	123°	123	123	126	118°	119°	—	—	111°	111°5
	Alv. *	5.6	6.2	5.8	4.8	13.5	11.2	17.4	17.0	4.8	2.4	17.3	17.8	12.0	11.7	—	—	—	—	5.8	5.8
	79:1	96°	86°	112°	110°	102°	101°	96°	87°	94°	96°	—	—	95°	97°	—	—	—	—	95	94
	79:4	58°	59°	64°	64°	67°	67°	68°5	68°5	67°	67°5	60°	62°	70°5	70°5	73°	76°	72°	72°5	70°5	70°
F	8/1 · 100	79.55	79.10	75.98	75.98	79.43	78.86	76.09	75.14	73.77	74.12	—	—	73.66	72.73	73.80	73.33	70.53	70.00	80.54	80.54
	17/1 · 100	76.14	74.58	68.72	69.83	70.29	70.29	69.02	68.65	71.58	71.08	—	—	73.66	73.26	71.11	71.11	66.32	66.32	69.19	69.19
	17/8 · 100	95.71	94.29	90.44	91.91	88.49	89.13	90.71	91.37	97.04	97.04	—	—	100.00	100.74	96.24	96.97	94.03	94.74	85.91	85.91
	Tr 1 *	232	222	211	211	211	211	211	111	122	122	—	—	123	123	112	112	112	112	311	311
	20a/1 · 100	61.93	61.58	60.34	60.89	61.14	61.14	58.15	57.88	60.66	60.99	—	—	59.14	58.82	60.56	60.56	57.89	57.89	60.54	60.54
	20a/8 · 100	77.86	77.86	79.41	80.15	77.54	77.54	76.43	76.98	82.22	82.22	—	—	80.29	80.88	81.95	82.58	82.09	82.71	75.17	75.17
	Tr 1 mod. *	121	221	211	212	211	211	211	111	112	112	—	—	112	112	112	112	112	112	311	311
	29/26 · 100	88.10	88.10	87.29	88.98	89.66	89.66	85.50	86.92	87.69	87.69	—	—	86.92	86.82	88.89	89.66	86.92	86.92	88.10	85.71
	30/27 · 100	90.00	91.53	90.68	90.68	91.51	89.62	90.43	91.30	90.24	91.06	—	—	88.55	87.88	88.37	88.37	91.74	91.74	90.32	89.43
	31/28 · 100	85.96	84.05	83.19	83.19	80.31	80.31	80.34	79.66	84.30	82.79	—	—	83.06	82.26	79.66	80.34	75.00	75.00	80.34	81.20
	9/10 · 100	80.00	80.00	80.00	80.67	(75.00)	(76.66)	84.48	84.48	83.74	84.43	—	—	79.82	80.53	83.19	83.19	86.96	86.96	—	—
	9/8 · 100	65.71	65.71	70.59	70.59	(64.75)	(66.67)	70.00	70.50	76.30	76.30	—	—	66.42	66.91	70.68	71.21	74.63	75.19	67.79	67.79
	47/45 · 100	93.55	94.31	80.83	80.83	88.33	87.50	88.16	85.94	(83.46)	(84.09)	—	—	90.00	89.31	—	—	—	—	—	—
	45/40 · 100 *	(133.33)	(130.85)	(122.45)	(121.21)	125.00	125.00	134.74	133.33	(149.44)	(146.67)	—	—	147.73	148.86	—	—	—	—	—	—
	48/40 · 100 *	(79.57)	(78.72)	(62.24)	(62.63)	69.79	70.83	72.63	72.92	77.53	76.67	—	—	77.27	77.27	73.63	73.91	—	—	75.00	75.00
	48/45 · 100 *	59.68	60.16	50.83	51.67	55.83	56.67	55.91	54.69	(51.69)	(52.27)	—	—	52.31	51.91	—	—	—	—	—	—
	Tr fac. *	(233)	(133)	(111)	(111)	111	123	222	222	(111)	(132)	—	—	332	333	—	—	—	—	—	—
	52/51 · 100 sin	83.41	83.74	75.38	77.75	80.65	81.05	75.53	75.29	82.86	82.62	—	—	79.55	78.64	—	—	—	—	97.44	97.69
	52/51 · 100 dx	—	—	74.87	77.55	(84.56)	(85.05)	74.60	74.07	82.16	81.02	—	—	78.86	78.41	84.87	82.99	—	—	—	—
	50/44 · 100	—	—	26.09	26.88	(20.43)	(20.63)	21.50	22.28	24.95	24.30	—	—	21.21	21.00	—	—	—	—	—	—
	54/55 · 100	42.18	46.57	53.26	53.83	43.92	44.12	51.11	51.83	42.67	42.26	—	—	56.86	56.70	(48.00)	(51.09)	—	—	47.12	46.67
	64/63 · 100	24.21	23.95	28.77	27.95	20.27	21.22	29.01	28.34	35.02	34.15	—	—	(25.91)	(26.04)	—	—	—	—	(28.92)	(29.51)
	63/62 · 100	80.85	80.34	89.02	90.12	(90.24)	(91.95)	92.17	92.22	—	—	(79.17)	(77.55)	89.77	90.57	—	—	—	—	92.73	93.82
	16/7 · 100	85.71	85.92	—	—	—	—	83.33	83.62	(100.63)	99.69	—	—	(87.82)	(89.49)	—	—	83.62	83.90	83.89	82.60
G	68/65 · 100	74.51	73.53	70.64	70.45	—	—	68.22	68.22	62.30	62.30	(68.85)	(68.85)	66.97	67.89	62.50	61.06	—	—	61.64	61.11
	66/65 · 100	84.31	84.31	77.06	76.36	—	—	81.36	81.36	72.95	73.77	(77.05)	(78.28)	83.49	83.49	88.39	87.61	—	—	76.72	76.92
	70:5/71:1 · 100	34.04	33.04	30.66	31.16	29.27	28.19	30.87	30.71	37.43	37.33	39.39	47.55	49.67	49.20	40.17	39.62	52.08	52.67	40.92	39.87
	65/Cd-Mt · 100 *	87.18	87.18	98.20	100.00	—	—	97.52	96.72	98.79	98.39	(94.57)	(93.85)	88.62	87.20	95.73	95.76	—	—	103.57	104.46

Table 23 (continued)

Craniometric series

Females

	Indiv./Grave/No.	25		30		31		32		34		36		37		38		40		41	
A	38	—	—	—	—	—	—	1360	1340	1320	1320	—	—	1250	1260	1280	1270	1320	1320	—	—
	38 d_1	—	—	1334	1338	1244	1243	1314	1313	1293	1291	—	—	1304	1308	1299	1291	1350	1320	1262	1262
	38 d_2	1296	1271	1418	1418	1188	1186	1361	1367	(1283)	(1282)	—	—	1309	1314	1255	1250	1312	1302	1208	1208
	1	183	182	185	185	170	170	185	186	182	181	—	—	179	179	182	182	180	180	169	168
	3	174	174	179	179	168	168	176	176	173	172	—	—	169	169	170	170	172	171	165	164
	2	171	171	170	170	166	167	176	177	171	170	163	163	167	166	169	169	165	165	160	159
	2a	167	167	163	162	(166)	(166)	172	172	—	—	—	—	160	159	163	163	161	161	156	155
	29	104	105	112	112	—	—	116	115	—	—	—	—	107	107	109	110	109	109	112	113
	30	111	111	118	118	111	109	108	108	108	108	—	—	108	108	99	99	107	107	102	98
	31	102	102	98	98	87	88	101	101	94	95	—	—	93	93	102	102	107	107	97	88
	5	—	—	(91)	(91)	—	—	93	93	—	—	—	—	95	95	94	94	94	94	93	93
	8	136	136	147	142	132	131	137	137	139	139	—	—	141	141	135	135	136	138	134	134
	9	97	97	106	106	88	88	89	89	95	94	—	—	95	96	91	91	90	91	89	88
	10	119	116	130	130	113	116	112	111	117	118	—	—	117	117	114	116	113	114	106	105
	11	122	120	122	124	119	119	116	118	(129)	(129)	—	—	127	128	123	122	124	122	113	113
	12	109	110	(112)	(112)	105	103	110	112	118	114	—	—	109	109	109	109	111	112	101	101
	13	95	97	100	100	99	99	106	106	103	103	103	103	97	97	103	103	107	107	92	91
	17	—	—	125	124	124	124	127	126	120	122	133	133	129	126	126	125	131	131	128	128
	20a	106	105	113	113	106	106.5	112	112	104	104.5	—	—	107	107.5	104	103.5	109	108	108	108
	20b	102	102	109	109	104	104	109.5	109.5	(104)	(104)	—	—	107	107	103	103.5	109	108	107.5	107.5
	21	108	106.5	109	109	108	108.5	113	113.5	(103)	(103.5)	—	—	109	110	104	103	108	107	108	108
	7	—	—	36.9	37	34	34.5	36	35.7	39.2	39.6	34.5	34.5	34.4	34.4	37.3	37.5	35	35	30.8	30.8
	16	—	—	—	—	—	—	28.4	29	30.0	30.2	28.0	28.0	30.2	30.5	32.1	32.1	29.5	29.8	27.3	27.7
B	23	520	517	527	527	482	481	519	521	514	514	—	—	514	512	512	511	505	506	481	481
	24	300	301	331	331	298	301	308	311	305	307	—	—	312	311	297	296	304	307	300	303
	25	362	364	384	386	(350)	(357)	377	377	—	—	—	—	359	361	362	364	370	368	347	346
	26	118	119	133	133	(122)	(129)	132	132	—	—	—	—	120	122	124	126	122	122	130	130
	27	119	119	128	129	125	126	119	118	120	123	—	—	122	124	107	106	116	116	115	111
	28	125	126	123	124	103	102	126	127	117	117	—	—	117	115	131	132	132	130	102	105
C	40	—	—	—	—	89	89	89	88.5	—	—	—	—	(91)	(91)	88	89	86	87	87	88
	47	114	114	—	—	(99)	(99)	110	109	—	—	—	—	—	—	103	101	112	113	110	110
	48	(71)	(72)	—	—	(60)	(61)	66	67	—	—	—	—	(55)	(55.5)	61	61.2	66	66.5	69	67.5
	43	105	105	100	108.5	97	97	99	100	103	103	—	—	105	105	101	101	99	99	97	97
	43(1)	(93)	(94.3)	96.3	98	89.5	89.5	91	91	98	98.5	—	—	96	97	95	94.5	92	92.5	87	87.5
	44	95	95	—	—	90	90.5	91	92	—	—	—	—	99	100	96	96	94	94	—	—
	49	23.5	24	—	—	—	—	23.2	23.5	—	—	—	—	24	24	23	23.5	24	25	(24)	(23.5)
	50	19.3	20	—	—	—	—	19	18.9	—	—	—	—	21.3	22	16.2	17	20.3	21	—	—
	45	(130)	(129)	—	—	(125)	(124)	122	121	—	—	—	—	130	130	127	127	126	126	—	—
	46	—	—	—	—	92.8	93.5	85.5	86.5	—	—	—	—	91	91	86.5	86.5	93	93	—	—
	54	24	24	—	—	23	24.7	21	21.2	—	—	—	—	(29)	(26.8)	22.5	22.5	24	24.1	23.8	25.1
	55	56	56.5	—	—	—	—	51	50	—	—	—	—	46	46.2	46	45.5	47	47.5	(50)	(50.5)
	51 sin	39	39.5	—	—	39	38.3	40.5	41.2	—	—	—	—	42	42	40.6	40.7	39	39.3	—	—
	51 dx	40	40.5	40.0	40.0	—	—	40.5	40.8	—	—	—	—	41	41.7	42.0	42.4	39	39.7	(37)	(37.5)
	52 sin	35.5	35.5	—	—	33	32.2	33.3	33.1	—	—	—	—	33.6	35.4	35.4	35.4	31.2	31.2	—	—
	52 dx	34.4	34.5	38.3	38.3	32	32.4	33.7	33.9	—	—	—	—	34.5	34	34.6	35.0	31.4	31.4	(32.5)	(32)
	62	47	47	—	—	—	—	45	44	—	—	—	—	41.8	41.0	41	40.8	42.2	42.3	42	42.8
	63	44.5	44.1	37.5	37.4	(34)	(38)	41.5	42.3	—	—	—	—	—	—	40.5	41.1	41	40	35	35.5
	64	9.4	9.5	—	—	10	10.1	—	—	—	—	—	—	—	—	10.5	10.8	14.2	14.4	11.5	11.8
D	72	77°	78°5	—	—	—	—	85°	86°	—	—	—	—	(82°)	(82°)	82°	82°	83°	82°5	85°	85°
	72:5	—	—	—	—	—	—	42°6	41°2	—	—	—	—	(34°3)	(34°6)	39°	39°	42°8	42°9	44°9	43°9
	72:5	—	—	—	—	—	—	64°5	64°8	—	—	—	—	(68°9)	(68°7)	65°2	66°1	62°1	62°9	62°9	64°2
	72:5	—	—	—	—	—	—	72°9	72°	—	—	—	—	(76°8)	(76°7)	75°8	74°9	75°1	74°2	72°2	72°1
E	65	114	115	116	116	108	106	115	116	—	—	110	111	—	—	(117)	(119)	114	114	—	—
	66	89	89	93	93	81	81	85	86	94.5	95	—	—	93	93	92	93	87	87	100	100
	68 *	83.3	82.5	73.5	74.5	56	55.5	80.5	80.5	(77.5)	(77)	77	77.5	70.5	71	71	70	75	75	72	71
	Cd-Mi *	126	126	113	113	96.5	96	126	126	(129)	(129)	116	116	115	114	112	112	116	115	117	117
	69	32.3	32.3	31	31	29.1	30	31.5	31.8	39.3	39.8	28.6	29.0	—	—	26.8	27	32.3	32	33.2	33.7
	P_1H *	33.7	33.5	29.8	29.5	dx28.3	28.4	35.0	34.8	36.4	36.7	dx29.4	29.3	dx29.8	29.9	27.1	26.4	32.0	31.6	31.2	31.5
	M_2H *	28.7	28.6	24.8	24.7	dx24.3	24.2	27.8	28.0	28.4	28.5	dx24.6	24.7	dx25.2	24.9	27.2	27.1	26.0	26.3	28.5	28.6
	M_2P_1 *	27.1	27.7	27.5	28	dx24.5	25.9	24.7	24.5	25.5	25.7	dx26.4	26.2	dx26.2	26.4	26.8	27	26	26.7	28.6	29
	69(3) *	12.8	12.3	11.5	11	10.7	10.4	9.8	9.9	10.3	10.5	9.0	8.5	13.1	12.6	9.8	9.6	10.3	9.1	11.4	11.0
	Cd-Go	64	66	59	59	47	47	62.5	62	dx(61)	(61.5)	55.5	55.5	57	59	dx61	60	60.5	61.5	dx62	64.5
	71	35.4	35.6	31.8	31.8	32.4	33	29.9	30.1	dx29.1	29.0	31.7	31.8	31.7	31.8	29.6	29.7	30.4	30.4	dx34.6	34.6
	70(1)	10.6	10.8	11.2	11.1	11.0	11.0	11.9	11.9	dx11.8	11.8	8.3	8.3	14.4	14.3	—	—	11.5	11.0	dx11.0	11.0
	71(1)	35.2	36.2	33.2	33.8	39	38.4	33.3	38.7	dx29.6	29.2	31.0	31.2	38.8	38.8	dx29.8	29.5	35.0	35.3	dx41.1	40.7
	Ang. *	116°	115°	118°	117°5	138°	137°	122°	122°	dx(134°)	(134°5)	121°	121°	124°	122°6	dx115°	118°	112°	115°	dx121°	119°
	Alv. *	10°2	10°6	10°1	10°1	9°8	9°8	16°1	15°8	16°2	19°1	10°5	10°2	10°2	10°7	-0°6	-0°9	13°4	11°6	9°0	5°7
	79(1)	98°6	97°5	—	—	79°	79°	—	—	—	—	—	—	—	—	101°	99°	94°	94°	85°5	87°
	79(4)	62°5	63°	70°	71°	81°5	83°5	61°	62°	72°	72°	(72°9)	(72°6)	74°	74°5	73°5	74°	65°	65°	81°	81°
F	8/1 · 100	74.32	74.73	79.46	79.46	77.65	77.06	74.05	73.65	76.37	76.80	—	—	78.77	78.77	74.18	74.18	76.67	76.67	79.76	79.78
	17/1 · 100	—	—	66.49	67.03	72.94	72.94	68.65	67.74	67.03	67.40	—	—	69.83	70.39	69.23	68.68	72.78	72.78	76.19	76.19
	17/8 · 100	—	—	91.67	84.35	93.94	94.66	92.70	91.97	87.77	87.77	—	—	88.65	89.36	93.33	92.59	94.93	94.93	95.52	95.52
	Tr I *	—	—	211	211	222	222	112	111	211	211	—	—	211	211	112	112	222	222	332	332
	20a/1 · 100	57.92	57.69	61.08	61.08	62.35	62.65	60.54	60.22	(57.14)	(57.73)	—	—	59.78	60.06	57.14	56.87	60.56	60.00	64.29	64.29
	20a/8 · 100	77.94	77.21	76.87	76.87	80.30	81.30	81.75	81.75	(74.82)	(75.18)	—	—	75.89	76.24	77.04	76.67	79.99	78.26	80.60	80.60
	Tr I mod. *	111	111	211	211	222	222	112	112	(211)	(211)	—	—	211	211	111	111	211	211	322	322
	24/20 · 100	88.14	88.24	94.21	94.85	—	—	87.88	87.12	—	—	—	—	89.17	87.70	87.99	87.30	89.34	89.34	86.13	88.46
	30/27 · 100	93.28	93.28	92.19	91.47	88.80	86.51	90.76	91.53	90.00	90.00	—	—	88.52	87.10	92.52	93.40	92.24	92.24	88.70	88.29
	31/28 · 100	81.60	80.95	79.67	79.03	84.47	86.27	80.16	79.53	80.54	79.49	—	—	79.49	80.87	77.86	77.27	81.06	82.31	85.29	85.81
	9/10 · 100	86.55	83.62	81.54	81.54	76.52	75.86	79.46	80.19	81.20	79.66	—	—	81.20	82.05	79.82	78.45	79.65	79.82	83.96	83.81
	9/8 · 100	71.32	71.32	72.11	72.11	66.67	67.18	64.96	64.96	68.35	67.63	—	—	67.38	68.09	67.41	67.41	65.22	65.94	66.42	65.67
	47/45 · 100	(87.69)	(88.37)	—	—	(79.20)	(79.84)	90.16	90.08	—	—	—	—	—	—	81.10	79.53	88.89	89.68	—	—
	65/40 · 100 *	—	—	—	—	(140.45)	(139.33)	138.64	136.72	—	—	—	—	(142.86)	(142.86)	144.32	142.70	146.51	144.83	—	—
	48/40 · 100 *	—	—	—	—	(67.42)	(68.54)	75.00	75.71	—	—	—	—	(60.44)	(60.99)	69.32	68.76	76.74	76.44	79.31	76.70
	48/45 · 100 *	(54.62)	(55.81)	—	—	(48.00)	(49.19)	54.10	55.37	—	—	—	—	(42.31)	(42.69)	48.03	48.19	52.38	52.78	—	—
	Tr I fac. *	—	—	—	—	(311)	(211)	232	233	—	—	—	—	(311)	(311)	311	311	332	332	—	—
	52/51 · 100 sin	91.03	89.87	—	—	82.05	83.64	82.22	80.34	—	—	—	—	80.00	79.52	87.19	86.98	80.00	79.39	—	—
	52/51 · 100 dx	86.00	85.19	95.75	95.75	—	—	83.21	83.09	—	—	—	—	84.15	81.53	82.38	82.55	80.51	79.09	(87.84)	(85.33)
	50/44 · 100	20.32	21.05	—	—	—	—	20.88	20.11	—	—	—	—	21.72	22.00	16.87	17.71	21.60	22.34	—	—
	54/55 · 100	42.86	42.48	—	—	—	—	41.18	42.40	—	—	—	—	(63.04)	(62.34)	48.91	49.45	51.06	50.74	(47.60)	(45.74)
	64/63 · 100	21.35	21.35	—	—	28.57	(25.43)	—	—	—	—	—	—	—	—	25.93	26.28	34.63	36.00	32.86	33.24
	63/62 · 100	94.68	94.68	—	—	—	—	92.22	96.59	—	—	—	—	—	—	98.78	100.73	97.16	94.56	83.33	82.94
	16/7 · 100	—	—	—	—	—	—	79.17	81.23	76.53	76.90	81.16	81.16	87.79	88.66	86.06	85.60	84.29	85.13	88.64	89.94
G	66/65 · 100	73.25	71.74	65.36	64.22	55.85	52.36	70.00	69.40	—	—	70.00	69.82	—	—	(60.68)	(58.82)	65.79	65.79	—	—
	46/45 · 100	78.07	77.39	80.17	80.17	73.61	78.30	73.91	74.14	—	—	—	—	—	—	(78.63)	(78.15)	76.32	76.32	—	—
	70:3/71(1) · 100	30.11	30.68	33.73	33.33	28.21	28.65	36.96	36.39	37.60	39.73	27.42	28.60	37.11	36.86	—	—	32.86	31.16	26.76	27.03
	65/Cd-Mi · 100 *	90.48	91.27	101.75	100.87	107.26	110.42	91.27	92.06	—	—	94.83	95.69	—	—	(104.46)	(106.25)	98.28	99.13	—	—

Craniometric series

Females

	Index (Crane) No	42		43		44		45		46		48		50a		51		52		58	
A	38	1422	1400	1280	1280	—	—	—	—	1360	1390	—	—	1290	1280	—	—	—	—	—	—
	38 a1	1296	1296	1316	1311	1276	1272	1352	1346	1344	1343	(1297)	(1294)	1295	1302	(1284)	(1288)	1305	1305	(1250)	(1268)
	38 a2	1304	1304	1328	1309	(1267)	(1254)	1388	1367	1485	1479	(1240)	(1253)	1306	1299	(1247)	(1258)	1332	1321	(1283)	(1278)
	1	181	181	185	185	173	172	185	189	185	184	179	179	182	183	181	181	186	186	180	180
	5	177	176	177	177	169	169	180	180	181	181	171	171	174	174	175	175	190	190	174	174
	2	173	172	179	179	161	161	176	175	173	173	172	172	165	166	171	171	173	173	171	170
	2a	167	167	175	174	155	156	172	171	167	167	170	169	162	163	167	168	170	170	167	167
	29	111	111	111	110	109	108	109	109	117	116	109	109	108	108	(106)	(100)	116	116	115	115
	30	115	118	115	115	112	112	120	120	121	120	108	107	104	103	(116)	(116)	108	108	112	112
	31	94	93	102	102	91	91	100	100	97	97	93	92	103	103	93	93	90	90	88	89
	5	96	96	(100)	(99)	(91)	(92)	99	99	94.5	93	97	97	101	101	92	92.5	102	103	(94)	(94)
	8	135	135	129	129	130	133	144	143	145	144	(136)	(137)	135	134	136	137	136	136	(132)	(131)
	9	96	96	97	96	94	94	102	103	102	102	97	96	97	97	89	89.5	96	90	93	95
	10	116	119	115	111	118	113	120	119	124	126	(115)	(118)	106	106	(114)	(114)	115	119	109	107
	11	121	121	112	113	118	119	128	128	124	125	124	125	116	117	125	125	—	—	119	118
	12	107	108	(101)	(102)	110	111	117	112	112	112	111	111	106	107	106	106	—	—	(107)	(108)
	13	96	96	89	89	100	100	105	106	107	109	104	104	96	97	103	103	—	—	(103)	(102)
	17	127	127	135	134	127	128	130	130	128	129	125	126	128	128	(123)	(123)	125	125	(122)	(124)
	20a	119	110.5	115	113	109	110	111	112	119	119	106	107	111	109	(103)	(103)	109	108	111	111
	20b	110	110	118	113	(109)	(110)	109	108.5	118	117	104	104	109	109	—	—	—	—	100	109
	21	111	112	119	114	(110)	(110)	110	109	122	121	104	105	115	115.5	(106)	(106)	109	108	111	110
	7	32.6	32.7	33.2	33	(36.4)	(36.5)	36.0	36.4	32.7	32.9	36.5	36.8	36.9	36.2	37.4	37.9	38.0	38.0	—	—
	16	26.2	26.2	(27)	(27)	27.7	27.7	31.8	31.7	31.4	30.0	31.2	31.3	27.2	27.5	30.9	30.8	26.9	27.0	—	—
B	23	507	506	507	508	492	495	527	525	531	525	508	507	505	502	507	506	—	—	(500)	(504)
	24	312	314	313	314	310	309	316	313	336	353	304	306	306	307	308	306	—	—	(295)	(300)
	25	375	373	381	379	354	353	373	372	387	387	366	364	358	359	364	367	365	361	365	364
	26	127	127	128	128	124	124	121	121	134	135	124	123	120	121	—	—	133	134	130	130
	27	131	132	127	126	124	124	131	131	133	135	118	118	112	112	—	—	118	117	123	124
	28	113	114	124	125	106	105	121	120	118	117	114	113	126	126	112	113	110	110	112	110
C	40	92	92.5	—	—	—	—	97	98	—	—	98	98.5	97	98.5	85	85	—	—	(94)	(94.5)
	47	109	109	—	—	—	—	116	116	—	—	107	107	103	103	106	108	—	—	(118)	(118)
	48	67	68	—	—	—	—	71	71	—	—	66	67	62	63	(63)	(65)	—	—	(70)	(69)
	45	103	103	(101)	(101.5)	—	—	(113)	(112)	105	106	105	105	97	97.5	96.4	96	—	—	101	101
	43(1)	92.5	93	93	94	—	—	105	104	99	98	99	98.5	90	90.5	90	90	—	—	93	93
	44	96	96.5	90	92	—	—	105	105	100	100	100	100	89	90	—	—	—	—	—	—
	49	22.8	23	22.3	22	—	—	27.5	29	—	—	23.5	23.3	20.4	20	—	—	—	—	—	—
	60	20.2	20	19.8	20	—	—	24.0	25	—	—	17.8	18.5	16.5	18	—	—	—	—	—	—
	45	125	126	122	122	—	—	136	136	131	131	129	129	124	123	(130)	(130)	—	—	127	127
	46	92	93	—	—	—	—	90	91	94	94.5	90	91	88	89	—	—	—	—	—	—
	54	23	23.2	—	—	—	—	26	26.4	—	—	23.6	23.6	21.2	21.7	—	—	—	—	—	—
	55	51	51	—	—	—	—	51	51	—	—	47	47.5	46	46	49	49	—	—	—	—
	51 sin	41.4	41.5	35.5	36.1	40.5	40.3	42.4	42	(40.8)	(41.0)	42.5	43	38.3	38.1	—	—	—	—	(39.5)	(40.0)
	51 dx	42	42.6	36.0	37.3	—	—	43.0	43.4	(42.8)	(42.9)	42.7	43.0	38.8	38.7	—	—	—	—	—	—
	52 sin	36.3	36.0	30.5	31	34.5	34.5	31.0	31.2	(38.4)	(38.2)	31.3	31.4	31.5	31.7	34.8	34.8	33.0	33.4	(33.0)	(32.8)
	52 dx	35.8	35.1	32.1	32.5	—	—	31.0	31.0	(38.7)	(38.5)	31.3	31.3	31.4	31.4	—	—	—	—	—	—
	62	44	44	—	—	33.0	33.4	—	—	—	—	50	50.5	47.5	47.4	42.5	42.5	—	—	—	—
	63	41	40.6	—	—	—	—	39.5	39.4	—	—	41.4	40.8	40.6	39.7	38.1	38	—	—	—	—
	64	9.8	7.0	—	—	—	—	13.1	13.7	—	—	10	11.4	10.0	10.4	8.5	9.0	—	—	—	—
D	72	87°	86°.5	—	—	—	—	81°	82°	—	—	80°	81°	83°	86°	(83°)	(85°.5)	—	—	(85°)	(86°)
	72:5	41°.7	42°.2	—	—	—	—	42°.5	42°.5	—	—	39°.6	40°.1	36°.4	36°.9	(40°.4)	(42°.7)	—	—	(43°.9)	(43°.0)
	72:5	66°	66°.2	—	—	—	—	67°.2	68°.1	—	—	71°.2	71°.2	69°.3	69°.4	(63°.3)	(62°.5)	—	—	(68°)	(68°.9)
	72:5	72°.3	71°.6	—	—	—	—	70°.3	69°.6	—	—	69°.2	68°.3	73°.3	73°.6	(76°.1)	(74°.9)	—	—	(68°.1)	(68°.1)
E	65	110	110	—	—	112	111	129	130	121	122	114	115	117	117	125	125	—	—	—	—
	66	97	97	96	96	92	91	96	96	95	95	91	91	95	95	91	91	—	—	—	—
	68 *	80.5	80	(69.5)	(70)	86	86	77.5	77	74	74	81	82.5	68.5	69	76	76	—	—	(70)	(69)
	Cd-Mt *	124	123	—	—	129	128	132	131	119	118	124	125	113.5	113	125	126	—	—	(118)	(117)
	69	29.9	30.6	—	—	—	—	31.6	32	—	—	29.9	30	(26)	(26)	—	—	—	—	—	—
	P_1H *	30.5	30.2	27.2	27.5	—	—	34.2	34.3	—	—	27.9	27.1	31.3	31.2	—	—	31.4	31.3	—	—
	M_1H *	25.6	25.4	23.2	23.4	—	—	31.2	31.2	—	—	25.8	25.3	24.3	24.5	—	—	27.3	27.4	30.8	30.6
	M_2P *	22.6	23	23.3	23.5	—	—	27.9	28.2	—	—	26.4	26.3	26.2	26.2	—	—	27.3	27.8	—	—
	69(3)	10	10	10.3	10.0	12.8	12.7	13.8	14.0	11.5	11.3	12.6	11.5	11.1	11	8.8	8.8	12.0	12.0	10.8	11.0
	Cd-Go *	68	68.5	—	—	70	69.5	73.5	74	59.5	59	62	62	57.5	58	54	54	56	55	(66.3)	(66)
	71	32.6	32.7	29.8	30	33.8	33.9	34.5	34.4	30.9	31.0	37.2	37.6	27.0	27.1	25.1	25.2	34.1	34.5	31.1	31.1
	70(3)	13.4	13.3	—	—	13.0	13.0	13.6	13.7	dx10.8	11.0	11.9	12.0	10.7	10.7	11.1	11.0	13.2	13.2	11.9	12.0
	71:1	31.8	32	—	—	35.6	35	31.9	32.7	dx29.1	29.0	37.3	37.6	30.3	30.8	dx32.1	33.1	34.1	34.0	31.6	31.5
	Ang. *	112°	112°.5	(134°)	(131°.8)	110°	110°	119°	119°	123°	123°	117°	117°.9	123°	127°.5	133°	134°	123°	124°	(120°)	(121°)
	Alv. *	12°.8	12°.1	9°.6	8°.5	—	—	3°.5	5°.8	—	—	3°.5	4°.6	13°.1	14°.5	—	—	7°.9	7°.9	—	—
	79:1	109°	109°	—	—	—	—	93°	93°.5	—	—	97°	96°.5	97°	95°	(120°)	(129°)	—	—	—	—
	79:4	71°	71°.5	78°	78°	64°.5	64°.5	68°	69°	67°.5	67°.3	64°	65°.5	70°.5	70°	65°.5	62°.3	—	—	—	—
F	8/1 · 100	74.59	74.59	69.73	69.73	78.61	78.49	77.84	77.72	77.84	78.26	(75.98)	(75.54)	73.08	73.22	75.14	75.69	73.12	73.44	(73.39)	(72.78)
	17/1 · 100	70.17	70.17	72.97	72.43	73.41	74.42	70.27	70.65	69.19	70.11	69.83	70.39	70.53	69.99	(67.96)	(67.96)	67.20	67.20	(67.78)	(68.80)
	17/8 · 100	94.07	94.07	104.65	103.88	93.38	94.81	90.28	90.91	88.89	89.58	(91.91)	(91.97)	96.24	95.52	(90.44)	(89.78)	91.91	91.91	(92.42)	(94.66)
	Tr I *	112	112	123	123	222	222	211	211	211	211	(211)	(211)	112	112	(111)	(211)	111	111	(113)	(112)
	20a/1 · 100	60.77	61.05	62.16	61.08	63.01	63.95	60.00	60.87	64.32	64.67	59.22	59.78	60.99	59.56	(56.91)	(56.91)	58.60	58.06	61.67	61.67
	20a/8 · 100	81.48	81.85	89.15	87.60	(82.15)	(81.48)	77.98	77.62	82.64	82.64	(77.94)	(78.10)	83.86	82.34	(75.74)	(75.15)	80.13	79.41	(84.09)	(84.73)
	Tr I mod. *	112	112	123	113	(222)	(222)	211	211	222	222	(211)	(411)	113	112	(111)	(211)	112	111	(123)	(123)
	29/26 · 100	87.40	87.40	86.72	85.94	87.10	87.10	90.08	90.08	87.11	88.93	87.90	88.62	90.00	89.26	—	—	87.22	86.57	88.46	88.46
	30/27 · 100	87.79	89.39	90.55	91.27	90.32	90.32	91.60	91.00	89.63	88.88	91.51	90.68	92.86	92.86	—	—	91.53	92.35	91.06	90.32
	31/28 · 100	80.34	81.58	80.95	81.60	85.85	86.07	82.64	82.53	82.20	82.61	81.58	81.42	81.75	81.75	83.24	82.30	81.82	81.82	78.57	80.91
	9/10 · 100	82.76	83.49	84.35	84.96	82.46	83.19	85.00	86.55	82.26	80.95	(84.35)	(81.36)	82.08	82.08	(78.07)	(78.51)	84.36	84.21	87.16	88.79
	9/8 · 100	71.11	71.11	75.19	74.42	69.12	69.63	70.83	72.03	70.83	70.83	(71.33)	(70.07)	69.41	64.93	65.44	65.33	70.59	70.59	(71.97)	(72.52)
	47/45 · 100	87.20	87.90	—	—	—	—	85.29	85.28	—	—	82.95	82.95	83.06	85.34	(81.54)	(83.08)	—	—	(92.91)	(92.91)
	45/40 · 100 *	135.87	136.05	—	—	—	—	140.23	138.79	—	—	131.62	130.96	127.88	124.87	152.94	152.94	—	—	(135.11)	(134.39)
	48/40 · 100 *	72.83	73.51	—	—	—	—	73.20	72.45	—	—	67.35	68.02	63.92	63.96	74.12	76.47	—	—	(74.47)	(73.00)
	48/45 · 100 *	53.60	54.84	—	—	—	—	52.21	52.21	—	—	51.16	51.94	50.00	51.22	(48.46)	(50.00)	—	—	(55.12)	(54.33)
	Tr I fac. *	222	221	—	—	—	—	322	322	—	—	111	111	111	111	(321)	(331)	—	—	(243)	(223)
	52/51 · 100 sin	87.68	88.19	84.96	85.87	85.19	85.82	73.11	74.29	(94.12)	(93.17)	73.65	73.02	81.82	81.61	—	—	—	—	(82.54)	(82.00)
	52/51 · 100 dx	85.24	82.39	89.17	87.13	—	—	72.09	71.61	(90.42)	(89.74)	73.30	72.00	80.93	81.19	—	—	—	—	—	—
	50/44 · 100	21.04	20.73	22.00	21.74	—	—	22.86	23.81	—	—	17.80	18.90	16.54	20.00	—	—	—	—	—	—
	54/55 · 100	45.10	45.49	—	—	—	—	50.98	51.26	—	—	50.21	49.68	46.09	47.17	—	—	—	—	—	—
	64/63 · 100	16.59	17.24	—	—	—	—	33.56	34.77	—	—	24.15	27.94	24.63	26.26	22.31	23.26	—	—	—	—
	63/62 · 100	93.18	92.27	—	—	—	—	—	—	—	—	82.80	80.79	85.47	83.76	89.02	89.41	—	—	—	—
	16/7 · 100	80.37	80.12	(81.33)	(81.82)	(76.10)	(75.89)	88.33	87.09	96.02	91.19	85.48	85.05	73.71	75.76	81.73	81.27	70.79	71.06	—	—
G	68/65 · 100	73.18	72.73	—	—	76.79	76.11	60.08	59.23	61.16	60.66	72.81	71.74	58.53	58.12	60.80	60.80	—	—	—	—
	66/65 · 100	88.18	88.18	—	—	82.14	82.10	74.42	73.85	70.25	69.67	79.82	79.13	81.20	81.20	72.80	72.80	—	—	—	—
	70(3)/71(1) · 100	42.01	42.19	—	—	36.78	52.00	42.63	41.90	36.73	37.93	31.40	31.75	34.85	34.74	33.94	33.23	38.71	38.82	38.79	38.10
	95/Cd-Mt · 100 *	88.71	89.43	—	—	87.50	88.28	97.73	99.24	101.68	103.39	91.94	92.30	103.08	103.54	104.17	104.17	—	—	—	—

Table 23 (continued)

Craniometric series

Females

	Indiv. (Grave) No.	55a		56		57		63		64		65		67		68		69		71	
A	38	1320	1320	1300	1300	—	—	1330	1320	—	—	—	—	—	—	—	—	1400	1400	1340	1330
	38 d_1	1275	1275	1262	1259	(1289)	(1291)	1324	1323	1287	1287	(1310)	(1307)	1298	1301	1276	1273	1305	1303	1264	1264
	38 d_2	1254	1240	1272	1259	1268	1268	1399	1417	1230	1234	1280	1265	—	—	1229	1219	1362	1356	1392	1392
	1	173	172	182	181	175	175	190	191	171	171	174	173	179	179	172	171	183	182	188	188
	3	169	169	178	174	167	168	180	181	165	165	165	166	176	176	166	166	177	176	180	180
	2	170	171	178	175	170	169	169	170	158	158	159	160	168	168	164	164	173	173	180	180
	2a	169	169	173	173	166	165	165	165	155	155	157	158	—	—	158	159	169	169	178	177
	29	109	109	107	107	105	105	111	112	103	103	111	111	—	—	108	107	108	108	118	118
	30	113	113	120	120	113	114	119	120	110	110	112	113	111	110	109	109	115	115	108	108
	31	93	93	87	88	93	94	95	95	95	95	93	93	—	—	—	—	98	98	97	97
	5	96	96	94	93	(102)	(101)	96	96	95	95.5	101	101	—	—	96	96.5	91	92	109	109
	8	133	133	130	130	131	131	137	136	136	136	137	137	137	138	132	132	135	135	134	134
	9	93	93	98	98	95	96	97	97.5	93	93	(93)	(95)	(93)	(92)	89	90	97	97.5	94	95
	10	112	113	116	116	112	113	116	116	114	113	116	115	116	116	111	111	116	117	112	113
	11	118	117	115	115	(119)	(116)	122	121	124	123	122	121	113	113	111	112	120	120	123	121
	12	102	106	103	104	(103)	(100)	107	108	110	110	—	—	101	101	106	106	110	111	107	108
	13	100	101	93	93	(96)	(97)	97	98	—	—	99	99	94	93	96	96	100	100	98	97
	17	129	130	122	121	(133)	(134)	126	126	131	131	(134)	(134)	127	127	131	131	128	128	135	135
	20a	111	110	110	109.5	112	112	115.5	116	109	109	110	109	—	—	109.5	109	112	113	115	115
	20b	109.5	110	109	109	112	112	113	115	107	107.5	108.5	108	113	113	109	109	111	111	115	115
	21	112	111	113	112	113	113	116	117.5	112	110.5	109	108	—	—	110.5	109.5	115	115	116	116
	7	33.2	33.5	34.7	34.8	33	33.2	41.8	41.8	37	37.2	32.2	32.3	—	—	—	—	35.1	35.1	32.9	32.8
	16	32.0	32.2	26.5	28	—	—	30.4	30.4	32.3	32.5	29.0	29.5	—	—	—	—	26.7	27.8	26.7	26.8
B	23	490	491	506	505	496	495	521	522	496	496	497	498	—	—	490	491	513	512	518	520
	24	302	303	307	309	310	311	314	318	304	307	317	319	324	321	305	307	320	322	321	320
	25	363	364	367	366	357	357	377	378	350	350	360	358	—	—	—	—	375	376	372	372
	26	124	125	122	122	121	120	125	127	115	115	125	124	—	—	122	123	123	123	135	135
	27	129	129	132	130	123	125	131	131	122	121	125	125	122	121	122	122	128	129	119	119
	28	110	110	113	114	113	112	121	120	113	113	110	109	—	—	—	—	124	124	118	118
C	40	86	87	93	92	—	—	95	96	98	97.5	—	—	—	—	87.5	88	88	89.5	99	99.5
	47	109	109	107	105	—	—	116	116	—	—	—	—	—	—	99	100	113	114	115	114
	48	66	67	64	64.5	—	—	68	69.5	70	71	—	—	—	—	61	60.5	67	67	68	69
	43	98	99.5	105	104	103	103	104	104	100	100	104	104	—	—	95	95	105	104.5	102	102
	43:1	92	92	98	98	96	97	97	98	93	94	98	99	—	—	90	89.5	98	98	95	95
	44	95	95	99	98.5	—	—	97	97	95	95.5	98.5	98.5	—	—	90	89	98	99	99	98
	49	23.9	24	26	26	26	25	25	25	23	23.5	—	—	—	—	22	23	29.2	29	25	25
	50	20	20.5	22	23	—	—	21	21	—	—	—	—	—	—	20	20	26.2	26	21.5	22
	45	123	122	122	122	—	—	127	127	128	127	—	—	—	—	(115)	(115)	126	126	127	127
	46	90	91	94	94	—	—	94	94	92	93	—	—	—	—	(80)	(80)	96	96.5	94	95
	54	23.3	23.6	27	26.5	—	—	26.2	26	25	25.1	—	—	—	—	(23)	(21.5)	22.2	22.2	25	24.6
	55	50	51	48	47.5	—	—	50	50	51.4	50.0	—	—	—	—	45	45	47.4	48	51	51
	51 sin	41	40.6	42.8	42.3	—	—	42	42.1	—	—	—	—	—	—	(38)	(37.7)	39.4	40	43.0	42.8
	51 dx	40.3	40.2	42.8	43.2	—	—	42	41.4	—	—	—	—	—	—	39.2	38.8	39.1	39.8	43.5	44.1
	52 sin	33.1	33.4	30.3	30.3	—	—	31.4	31.6	31.8	32.3	—	—	—	—	33.9	34	32.2	32.2	34.0	34.0
	52 dx	32.7	32.8	30.9	30.9	—	—	31.6	31.8	32.6	32.0	—	—	—	—	33.3	33.8	33.1	33.2	33.3	33.2
	62	44	44.4	45	45	—	—	47.8	47.0	—	—	42	42.5	42	42.5	(36)	(37.5)	43	43.5	—	—
	63	37.4	37.5	44.5	44	—	—	43	43.2	38	38.2	38.0	37.7	40	40.2	—	—	40.2	38.8	39.8	39.8
	64	10.5	11.0	13.5	14	—	—	12.0	12.4	11.1	11.2	(6.5)	(6.0)	10.5	10.2	—	—	12.0	12.0	11.2	11.5
D	72	82°	84°5	88°	91°	—	—	86°	87°5	(78°)	(79°5)	—	—	—	—	87°	86°5	86°	86°	89°	90°5
	72:6	42°7	43°2	40°1	40°8	—	—	41°7	42°4	42°5	43°2	—	—	—	—	38°5	37°9	43°9	43°3	38°1	38°3
	72:5	62°2	62°8	69°1	68°8	—	—	68°4	68°8	71°	69°8	—	—	—	—	63°2	63°4	65°7	66°4	63°8	63°4
	72:5	75°1	74°	70°8	70°4	—	—	69°9	68°8	66°5	66°9	—	—	—	—	78°3	78°7	70°4	70°2	78°1	78°3
E	65	113	113	106	108	(120)	(122)	119	119	—	—	112	112	—	—	105	106	(120)	(121)	117	118
	66	95	94.5	89	88	90	91	94.5	95	—	—	91	91	93	92	85	85	96	96	99	99
	68 *	71	70.5	70.5	71.3	73.5	74	73	72.5	—	—	68	68	76	77.5	65.5	65	74.5	76.5	82	82
	Cd-Mi *	116	116	116	116	118	119	121	120	—	—	111	111	120	119.5	111	110	120	119	128	128
	69	30.7	31	31	32	31.5	31.4	32.8	33.4	—	—	29.2	28.8	31.8	32.0	29.2	29.1	32	31.6	30.4	30
	P_1H *	26.5	26.9	32.5	32.8	31.8	31.9	33.8	33.6	—	—	27.7	27.4	32.6	32.3	30.8	30.9	31.0	30.8	30.4	30.6
	M_1H *	22.3	22.9	27.1	26.9	—	—	28.7	28.4	—	—	24.7	24.9	28.8	29.0	—	—	23.9	24.1	26.8	27.1
	M_2P_1 *	27.2	27.5	26.8	26.6	—	—	26.2	25.9	—	—	25.2	24.8	26.1	26.5	—	—	26.4	26.4	26.1	26.6
	69:3	10.9	10.5	10.7	10.0	10.8	10.8	10.4	10.0	—	—	10.4	10.3	11.0	11.2	8.1	8.0	10.3	10.2	12.8	12.9
	Cd-Gn *	58	59.5	60	59.5	63	64	63.5	64	—	—	59	59	dx60.0	60.5	58	59	60.5	60.5	60.5	61
	71	29.3	29.8	30.9	30.8	28	28.1	34.6	34.7	—	—	27.7	27.1	dx37.0	36.8	27.4	27.3	31.2	31.3	35.3	35.9
	70:3	12.0	12.0	11.3	11.2	11.7	11.9	10.4	10.5	—	—	10.1	10.3	dx14.1	13.8	10.9	10.9	dx11.3	11.4	15.3	15.5
	71:1	32.7	33.0	37.4	37.2	30.2	30.7	38.2	38.8	—	—	35.9	35.7	dx35.6	35.5	34.0	34.1	dx28.3	28.0	37.9	38.1
	Ang. *	127°5	125°5	126°	124°5	119°	118°	124°	123°	—	—	122°	123°	dx118°	118°	128°5	127°5	122°	122°5	126°5	126°5
	Alv. *	7°5	6°9	11°6	12°4	—	—	11°3	11°8	—	—	6°4	6°4	6°6	7°3	—	—	15°1	14°4	7°1	8°0
	79:1	100°	101°	88°5	84°5	—	—	90°	84°	—	—	—	—	—	—	99°	98°5	98°	98°	104°	104°
	79:4	75°	75°	70°5	72°	68°	68°	74°	73°5	—	—	75°	74°	71°	70°5	72°	72°	73°0	72°5	71°	71°
F	8/1 · 100	76.88	77.33	71.43	71.82	74.86	74.86	72.11	71.20	79.53	79.53	78.74	79.19	76.54	77.09	76.74	77.19	73.77	74.18	71.28	71.28
	17/1 · 100	74.57	75.58	67.03	66.85	(76.00)	(76.57)	66.32	65.97	76.61	76.61	(77.01)	(77.46)	70.95	70.95	76.16	76.61	69.95	70.33	71.81	71.81
	17/8 · 100	96.99	97.74	93.85	93.08	(101.53)	(102.29)	91.97	92.65	96.32	96.32	(97.81)	(97.81)	92.70	92.03	99.24	99.24	94.81	94.81	100.75	100.75
	Tr I *	222	232	113	113	(133)	(133)	111	112	332	332	(232)	(232)	212	212	233	233	112	112	123	123
	20a/1 · 100	64.16	63.95	60.44	60.50	64.00	64.00	60.79	60.73	63.74	63.74	63.22	63.01	—	—	63.66	63.74	60.66	60.99	61.20	62.09
	20a/8 · 100	83.46	82.71	84.62	84.23	85.50	85.50	84.31	85.29	80.15	80.15	80.29	79.56	—	—	82.95	82.58	82.22	82.22	82.96	85.78
	Tr I mod. *	223	222	113	113	123	123	112	112	322	122	222	221	—	—	222	222	112	112	112	123
	29/26 · 100	87.90	87.20	87.70	87.70	86.78	87.50	88.80	88.19	89.57	89.57	88.80	89.52	—	—	88.52	86.99	87.80	87.80	87.41	87.41
	30/27 · 100	87.60	87.60	90.91	92.31	91.87	91.20	90.84	91.60	90.16	90.91	89.60	90.40	90.98	90.91	89.34	89.34	89.84	89.15	90.76	90.76
	31/28 · 100	84.55	84.55	76.99	77.19	82.30	83.93	78.51	79.17	84.07	84.07	84.55	85.32	—	—	—	—	79.03	79.03	82.20	82.20
	9/10 · 100	83.04	82.30	84.48	84.48	84.82	84.96	83.62	84.05	81.58	82.30	(80.17)	(82.61)	(80.17)	(79.31)	80.18	81.00	83.62	83.33	83.93	84.07
	9/8 · 100	69.92	69.92	75.38	75.38	72.52	73.28	70.80	71.69	68.38	68.38	(67.88)	(69.34)	(67.88)	(66.67)	67.42	68.18	71.85	72.22	70.15	70.90
	47/45 · 100	88.62	89.34	87.70	86.07	—	—	91.34	91.34	—	—	—	—	—	—	(86.09)	(86.96)	89.68	90.48	90.55	89.76
	45/40 · 100 *	143.02	140.23	131.18	132.61	—	—	133.68	132.29	130.61	130.26	—	—	—	—	(131.43)	(130.68)	143.18	140.78	128.28	127.64
	48/40 · 100 *	76.74	77.01	68.82	70.11	—	—	71.58	72.40	71.43	72.82	—	—	—	—	69.71	68.75	76.14	74.86	68.69	69.35
	48/45 · 100 *	53.66	54.92	52.46	52.87	—	—	53.54	54.72	54.69	55.91	—	—	—	—	(53.04)	(52.61)	53.17	53.17	53.54	54.33
	Tr I fac. *	332	331	112	122	—	—	222	223	123	123	—	—	—	—	(112)	(112)	332	322	112	112
	52/51 · 100 sin	80.73	82.27	70.56	71.63	—	—	74.76	75.06	—	—	—	—	—	—	(89.21)	(90.19)	81.73	80.50	79.07	79.44
	52/51 · 100 dx	81.14	81.59	72.20	71.53	—	—	75.24	76.81	—	—	—	—	—	—	84.95	87.11	84.65	83.42	76.55	75.28
	50/44 · 100	21.05	21.58	22.22	23.35	—	—	21.65	21.65	—	—	—	—	—	—	22.22	22.47	26.73	26.26	21.72	22.45
	54/55 · 100	46.60	46.27	56.25	55.79	—	—	52.40	52.00	48.64	50.20	—	—	—	—	(51.11)	(47.78)	46.84	46.25	49.02	48.24
	64/63 · 100	28.07	29.33	30.34	31.82	—	—	27.91	28.70	29.21	29.32	(17.11)	(15.92)	26.25	25.37	—	—	29.85	30.93	28.14	28.89
	63/62 · 100	85.00	84.46	98.89	97.78	—	—	89.96	91.91	—	—	90.48	88.71	95.24	94.59	—	—	93.49	89.20	—	—
	16/7 · 100	96.39	96.12	76.37	80.46	—	—	72.73	72.73	87.30	87.37	90.06	91.33	—	—	—	—	76.07	79.20	81.16	81.71
G	68/65 · 100	62.83	62.39	66.51	66.02	(61.25)	(60.66)	61.34	60.92	—	—	60.71	60.71	—	—	62.38	61.32	62.08	61.57	70.09	69.49
	66/65 · 100	84.07	83.63	83.96	81.48	(75.00)	(74.59)	79.41	79.83	—	—	81.25	81.25	—	—	80.95	80.19	80.00	79.34	84.62	83.90
	70:3/71:1 · 100	36.70	36.36	30.21	30.11	38.74	38.76	27.23	27.06	—	—	28.13	28.85	39.61	38.87	32.06	31.96	39.93	40.71	35.09	35.41
	65/Cd-Mi · 100 *	97.41	97.41	91.38	93.10	(101.69)	(102.52)	98.35	99.17	—	—	100.90	100.90	—	—	94.59	96.36	(100.00)	(101.68)	91.41	92.19

Craniometric series

Females

	Index (Crania) No.	72A		73		76		79		80		82		84		85		87		89b	
A	38	1280	1260	1330	1340	—	—	1300	1300	1300	1300	—	—	1360	1370	1320	1320	1200	1200	1340	1340
	38 d_1	1272	1280	1271	1276	—	—	1293	1295	(1298)	(1300)	1274	1264	1306	1306	1293	1293	1260	1259	1289	1293
	38 d_2	1227	1211	1281	1275	(1341)	(1343)	1276	1274	(1330)	(1348)	1265	1261	1349	1349	1304	1295	1176	1257	1350	1337
	1	176	176	180	179	189	189	184	184	176	176	168	167	181	181	180	180	173	174	187	186
	3	164	167	174	173	182	181	174	174	(171)	(171)	161	161	176	176	168	168	170	170	181	180
	2	166	167	168	167	174	173	169	160	170	168	159	159	178	178	164	165	164	163	175	175
	2a	162	162	163	162	169	170	167	167	165	163	156	156	176	176	158	158	160	160	172	173
	29	108	107	106	105	113	112	113	113	111	112	106	106	114	114	107	107	112	111	116	114
	30	105	106	107	108	110	110	104	103	(106)	(105)	94	94	109	109	109	109	113	112	117	116
	31	90	90	99	100	—	—	98	98	(102)	(101)	100	100	94	95	94	94	91	92	88	88.5
	5	94	95	102	101	—	—	96	96	95	95.5	96	96	94	94	94	94	94	94	97	97.5
	8	131	132	134	136	139	138	134	133	(135)	(138)	141	140	141	141	137	137	136	135	133	132
	9	85	85	90	91	92	92	97	97	88	88	96	97	93	93	97	97	93	93.5	100	101
	10	108	109	111	113	116	117	(114)	(112)	112	118	119	116	113	113	125	125	101	121	119	119
	11	117	118	116	117	—	—	127	126	122	120	121	121	127	126	121	120	115	114	120	120
	12	102	105	107	107	117	117	110	110	116	116	106	107	113	112	112	112	107	108	109	110
	13	98	97	93	95	—	—	101	101	100	100	94	93	104	104	103	102	96	97	94	95
	17	126	126	122	121	—	—	125	125	131	131	125	124	124	124	125	125	122	122	123	123
	20a	106	105	110	108	(106)	(107)	109	109.5	117.5	118	109	110	110	110	109	108	111	109	113	113
	20b	105	105	107	107	—	—	106	106.5	116	115.5	108	108	108.5	108	107	106.5	108	108	112	112
	21	106	105.5	111	111	(109)	(109)	108	108.5	124	123	111	112	112	111	110	109	112	110.5	113	111.5
	7	35.4	35.3	38.5	38.6	—	—	36.1	36.2	35.3	35.3	29.4	29.9	37.3	37.3	34	34	30	30.1	38.2	38.4
	16	27	27.2	30.0	29.6	—	—	28.5	28.5	28.1	28.0	26.7	26.4	29.0	29.5	30	30.4	26.3	26.3	30.1	30.4
B	23	490	492	501	501	528	528	515	513	501	500	490	491	515	515	515	514	499	500	514	514
	24	302	300	(300)	(305)	—	—	306	310	317	321	313	316	310	315	312	313	306	306	312	314
	25	348	347	351	348	—	—	365	364	367	365	344	344	366	365	367	367	365	364	369	369
	26	123	120	117	118	126	126	128	125	125	125	122	122	127	127	126	125	129	129	131	131
	27	116	117	118	117	118	119	114	113	122	122	102	103	121	121	121	121	126	126	127	126
	28	109	110	116	119	—	—	126	126	120	118	120	119	118	117	121	121	110	109	111	112
C	40	88	88	101	100	—	—	99	99	99	100	96	96	90	91	88	89	—	—	90	91
	47	105	106	101	102	115	115	128	127	111	111	104	105	105	105	—	—	—	—	—	—
	48	60	60	61	62	72	72	78	78	68	68	61	61	68	68	64	65	—	—	68	71
	43	93	93.5	99	97	101	101	104	103	102	101	103	103	102	102.5	105	105	97	97.5	105	105
	43(1)	88	88	89	90	90	91	93	93.5	93	95	95	96	91	91.5	93	94	89	89	100	99
	44	88	89	92	93	92	92	92	92	93	93	98	98	93	94	98	98	91	92	99	99
	49	20	20	22.9	22	22.7	23	24	24.5	24.0	24.5	26.4	26.2	24.8	24.5	(26)	(27)	23.1	24	24.3	26
	50	17	18	18.5	19	19.6	19.8	19.0	19.0	21.4	21	24.0	23.5	19.9	20	21	21.2	19.1	19.8	19	19.3
	45	(120)	(119)	(124)	(124)	—	—	129	129	124	125	128	120	126	126	129	130	118	119	129	129
	46	(85)	(86)	(87)	(88)	95	95	95	95.5	92	93	91	91	94	95	(94)	(94)	93	92	91.5	92
	54	—	—	21.6	21.8	22.2	22.5	20.4	20.3	23.8	23.8	26	26.3	25	25	(26)	(26.4)	—	—	27.4	28
	55	45	45	48	48	53	52	56.5	56	43.5	44.0	47	47	49	49	51	51.5	—	—	54	53.5
	51 sin	36.5	36.6	38.4	39.0	37.0	37.0	39.5	39.5	37.5	38.0	40.0	40.0	40.1	39.8	40.0	39.8	40.7	40.8	43.8	44.4
	51 dx	38.5	38.0	37.5	38.4	37.0	37.0	40.0	40.0	36.3	36.7	39.5	40.0	40.3	40.5	40.0	40.3	40.0	39.8	43.8	43.5
	52 sin	32.5	32.3	31.6	31.4	35.1	34.9	33.7	33.7	30.2	30.7	31.2	30.8	34.6	34.7	34.4	34.4	31.7	31.8	36.1	36
	52 dx	—	—	31.8	31.7	34.3	34.4	34.7	34.6	30.0	30.0	31.2	31.5	35.0	35.0	34.2	34.1	31.3	31.2	34.6	34.3
	62	—	—	46	46.4	—	—	49	48.5	49	48.8	45	45.6	—	—	40.2	40.4	—	—	45	46.1
	63	38.4	38.4	37.6	37.7	41.9	41.5	43.5	43.5	41.5	41.4	41	41.6	34.4	35	—	—	—	—	36	35.2
	64	—	—	10.0	10.0	17.0	17.0	18.0	17.4	10.0	10.0	9.0	9.5	14.5	14.8	—	—	—	—	7.6	7.4
D	72	(83°)	(84°)	84°	83°5	—	—	83°	83°	82°	83°	82°5	82°5	87°	89°	85°	85°	—	—	90°	90°
	72:5	38°3	38°	35°	35°9	—	—	47°	47°1	41°	40°3	37°	37°	43°3	43°1	41°	41°5	—	—	42°5	44°
	72:6	65°4	64°7	71°6	71°2	—	—	68°5	69°5	72°7	73°7	71°6	71°6	65°2	66°1	64°4	65°1	—	—	63°5	63°
	72:5	76°3	77°1	73°4	72°9	—	—	64°4	64°4	66°3	66°6	71°5	71°5	71°5	70°8	74°5	73°8	—	—	74°	73°
E	65	118	118	111	111	124	124	—	—	109	109	110	110	119	118	114	115	107	108	119	119
	66	91	90	90	90	99	99	89	89	100	100	92	92	84.5	84.5	101	101	82	82	98	88
	68 *	76	76	77	77.5	80	79	81	81	74	74.5	74	73.6	80	81	73	72.5	70	70	78	78
	Cd-Mt *	118	118	116	116	130	130	127	126.5	116	116.5	116.5	117	111	111	118	118	113	114	121	121
	69	25.8	26.0	28.2	28.5	32.8	33	36.7	36.6	36.5	36.5	29.4	28.7	29.8	29.2	25.2	25.7	28.6	28.8	17.2	17.3
	P.H. *	29.2	29.0	27.3	27.8	35.4	35.5	36.7	36.8	34.5	34.7	27.1	27.3	dx29.3	29.2	dx27.2	27.2	dx28.3	28.5	25.1	25.5
	M_2H *	23.2	23.3	22.2	22.3	29.2	29.3	29.7	29.4	27.1	27.4	22.7	22.8	dx27.6	27.7	dx22.5	22.7	dx24.2	23.9	22.9	23.0
	M_1P_1 *	28.8	28.0	28.1	28.0	29.4	28.4	28.7	29.1	29.2	25.3	27.8	27.1	dx25.6	23.6	dx23.1	23.5	dx25.8	25.8	—	—
	69:3	8.0	7.9	13.5	12.9	10.3	10.2	10.9	10.7	14.3	14.0	10.9	10.7	9.1	9.2	9.3	9.4	12.7	12.6	9.6	9.5
	Cd-Gn *	56	55	54	54	67.5	68	62	62	56.5	56	57	57	53.5	55.5	58	59	66	66.5	60	60
	71	29.6	29.5	34.8	34.6	37.6	37.5	35.7	36.0	dx32.8	32.5	31.3	31.3	36.2	36.2	28.1	28.2	25.5	25.7	33.6	33.5
	70:3	—	—	13.1	13.2	17.3	17.4	13.0	13.0	11.2	11.4	10.4	10.4	dx13.7	13.6	12.4	12.4	12.0	12.1	14.5	14.5
	71:1	—	—	30.6	30.7	42.8	43.0	35.9	35.8	31.1	30.8	34.9	34.9	dx35.3	35.5	30.4	30.9	30.1	30.4	39.0	39.0
	Ang. *	125°5	126°	123°	123°	124°	123°	124°5	122°5	134°	133°5	124°5	125°	110°5	110°	126°	125°5	112°	113°	120°	120°
	Alv. *	12°4	11°9	10°1	10°6	11.5	11.5	13°2	14°2	16°8	16°8	9°1	9°0	4°1	3°5	11°5	11°1	9°5	10°5	—	—
	79:1	(100°)	(100°)	90°5	98°8	—	—	85°	85°	92°	92°	98°	98°	98°	99°	—	—	—	—	—	—
	79:4	68°5	67°5	67°	66°	67°	67°	62°5	62°5	73°5	74	66°5	66°5	66°	65°	74°	74°	66°5	66°5	71°5	71°5
F	8/1 · 100	75.57	75.00	74.44	75.42	73.54	73.02	72.83	72.28	(76.70)	(78.41)	83.93	83.83	77.90	77.90	76.11	76.11	78.61	77.59	71.12	70.97
	17/1 · 100	73.99	71.59	67.78	68.72	—	—	67.93	67.93	74.43	74.43	74.40	74.25	68.51	68.51	69.44	69.44	70.52	70.11	65.78	66.11
	17/8 · 100	96.74	95.45	91.04	91.11	—	—	93.28	93.98	(97.04)	(94.93)	88.65	88.57	87.94	87.94	91.24	91.24	89.71	90.37	92.48	93.18
	Tr.I *	222	122	111	111	—	—	112	112	(222)	(222)	321	321	211	211	211	211	211	211	112	112
	20a/1 · 100	60.23	59.66	61.11	60.34	(56.08)	(56.61)	59.24	59.51	66.76	67.05	64.88	65.87	60.77	60.77	60.56	60.00	64.16	62.64	60.43	60.75
	20a/8 · 100	79.70	79.55	82.09	80.60	(76.26)	(77.54)	81.34	82.33	(87.04)	(85.51)	77.30	78.57	78.01	78.01	79.56	78.83	81.62	80.74	84.96	85.60
	Tr.I mod. *	211	111	112	112	(111)	(111)	112	112	(233)	(233)	321	331	211	211	211	211	222	222	113	113
	29/20 · 100	87.80	88.17	90.60	88.98	89.68	88.89	90.40	90.46	98.80	89.60	88.89	86.89	89.76	89.76	85.60	85.60	86.82	86.05	87.02	87.02
	30/27 · 100	90.52	90.60	90.68	90.60	93.22	92.44	91.23	91.15	(86.89)	(86.07)	92.16	91.26	90.08	90.08	90.08	90.08	89.68	88.89	92.13	92.06
	31/28 · 100	82.57	81.82	85.34	87.72	—	—	77.78	77.78	(85.00)	(85.59)	83.33	84.03	79.66	81.20	77.69	77.69	82.73	84.40	79.28	79.02
	9/10 · 100	77.98	77.98	81.08	80.53	79.31	78.63	(85.09)	(86.61)	78.57	77.19	83.48	83.62	82.30	82.30	77.60	77.60	76.86	77.27	84.03	84.87
	9/8 · 100	64.91	64.39	67.16	67.41	66.19	66.67	72.39	72.93	(65.19)	(63.77)	68.09	69.29	65.96	65.96	70.80	70.80	68.38	69.25	75.19	76.52
	47/45 · 100	(87.50)	(92.17)	(81.45)	(82.26)	—	—	99.22	98.45	89.52	88.80	81.25	81.40	83.33	83.33	—	—	—	—	—	—
	45/40 · 100 *	(136.36)	(130.68)	(122.77)	(124.00)	—	—	130.30	130.30	125.25	125.00	133.33	134.38	140.00	138.46	146.59	146.07	—	—	143.33	141.78
	48/40 · 100 *	68.18	68.18	60.40	62.00	—	—	78.79	78.79	68.69	68.00	63.54	63.54	75.56	74.73	72.73	73.03	—	—	75.56	78.02
	48/45 · 100 *	(50.00)	(52.17)	(49.19)	(50.00)	—	—	60.47	60.47	54.84	54.40	47.66	47.29	53.97	53.97	49.61	50.00	—	—	52.71	55.04
	Tr.I fac. *	(211)	(112)	(111)	(111)	—	—	133	133	113	112	211	211	132	222	321	321	—	—	332	333
	52/51 · 100 sin	89.04	88.35	82.29	80.51	94.87	94.32	85.32	85.32	80.53	80.79	78.00	77.00	86.28	87.19	86.00	86.43	77.89	77.94	82.42	81.08
	52/51 · 100 dx	—	—	84.80	82.55	92.70	92.97	86.75	86.50	82.64	81.74	78.99	78.75	86.85	86.42	85.25	84.62	78.25	78.39	79.00	78.85
	50/44 · 100	19.32	20.22	20.11	20.43	21.30	21.52	20.65	20.65	23.01	22.58	24.49	23.98	21.40	21.28	21.43	21.63	21.23	21.20	19.19	19.70
	54/55 · 100	—	—	45.00	45.42	41.89	43.27	36.11	36.25	54.71	54.09	55.32	55.96	51.02	51.02	(50.98)	(51.26)	—	—	50.74	52.34
	64/63 · 100	—	—	26.60	26.53	40.58	40.97	41.38	40.00	24.21	24.15	21.95	22.84	41.57	40.00	—	—	—	—	20.00	20.45
	63/62 · 100	—	—	81.74	81.25	—	—	88.78	89.69	84.29	84.84	91.11	92.44	—	—	—	—	—	—	80.00	76.19
	16/7 · 100	76.27	77.05	77.12	76.68	—	—	78.94	78.73	79.60	79.32	90.82	88.29	77.75	79.09	88.24	89.41	87.67	87.38	78.80	79.17
G	68/65 · 100	64.41	64.41	69.37	69.82	64.52	63.71	—	—	67.89	68.35	67.27	66.36	67.00	68.64	64.04	63.04	65.42	64.81	65.55	65.55
	66/65 · 100	77.12	76.27	81.08	81.08	79.84	79.84	—	—	91.74	91.74	83.64	83.64	71.11	71.61	88.60	87.83	76.64	75.93	82.35	82.35
	70:3/71:1 · 100	—	—	42.95	43.00	40.42	40.47	36.21	36.31	36.01	37.01	29.80	29.80	dx38.59	38.31	40.79	40.13	39.60	39.80	37.18	37.18
	65/Cd-Mt · 100	100.00	100.00	95.69	95.69	95.38	95.38	—	—	93.97	93.56	94.42	94.02	106.31	106.31	96.61	97.46	94.69	94.74	98.35	98.35

Table 23 (continued)

Craniometric series

Females

	Indiv. (Grave) No	89d		90		91		92		93a		93b		94a		95		96		97a	
A	38	—	—	1240	1220	1360	1350	1340	1360	1140	1140	1240	1220	1300	1310	1440	1420	1400	1380	1400	1420
	38:d1	1306	1299	1279	1279	1304	1300	1291	1291	1239	1235	1286	1283	1304	1294	1321	1314	1301	1299	1349	1334
	38:d2	(1278)	(1265)	1268	1269	1338	1323	—	—	1134	1142	1295	1270	1357	1343	1356	1342	1294	1289	1290	1367
	1	175	174	172	172	179	179	179	179	171	171	186	185	184	183	196	195	180	179	182	181
	2	169	168	164	165	174	174	176	177	164	165	178	179	179	178	188	188	175	176	175	175
	3	166	167	170	170	170	170	172	172	166	166	178	177	171	172	189	190	168	168	167	167
	3a	161	162	168	168	167	167	169	168	164	164	175	175	169	169	186	186	164	164	162	162
	29	108	107	107	106	114	115	110	111	108	108	113	113	119	119	112	112	115	116	109	108
	30	113	110	106	107	106	106	119	119	100	102	117	112	115	114	124	125	117	117	119	119
	31	90	91	96	95.5	97	98	92	92	91	92.5	95	95	90	90	101	101	95	95	92	92
	5	100	100	90	90	93	92.5	91	91	94	94.5	93	94	95	95	103	103	94	94	101	101
	8	136	135	137	137	141	141	136	136	128	128	135	135	136	135	131	130	132	132	137	136
	9	91	91	87	87	97	97	99	99.5	95	95	89	90	89.5	90	97	98	95	95	104	104
	10	116	116	111	112	119	120	114	115	111	112	112	113	113	114	114	115	116	117	120	119
	11	120	121	118	119	125	124	123	123	—	—	122	123	122	123	122	122	119	118	121	120
	12	(105)	(105)	114	114	112	113	95	95	104	106	104	106	107	108	101	103	109	111	107	106
	13	102	103	95	94	101	101	98	99	—	—	102	102	99	99	99	100	96	96	102	102
	17	133	133	127	127	125	124	126	126	125	124	121	121	126	125	127	127	132	132	138	137
	20a	112	111	110	110	110	108.5	—	—	102	103	106	106	113	113	110	110	113	113	117	116
	20b	(110)	(110)	110	119	107.5	107	110.5	111	—	—	104	104	112	112	110	109	112	112	116	116
	21	(109)	(110)	113	118	111	109.5	—	—	103	103	107	105	114	114	111	110	113	113	119	118
	7	36.2	36.4	34.5	34.0	35.3	35.6	37.2	37.3	31.2	31.2	34	34.2	33	35	40	39.8	35.9	36.0	33.7	33.8
	16	33.8	33.7	28.1	28.1	30.3	30.8	33.7	34.0	28.1	28.3	27	27.3	30.7	30.5	33	33.7	28.4	28.1	28.3	28.5
B	23	496	495	496	495	516	513	508	510	481	482	515	515	510	508	531	531	503	504	514	512
	24	314	317	307	305	315	315	313	315	—	—	296	298	308	311	299	301	311	313	314	316
	25	353	354	356	358	367	367	368	370	346	347	367	368	374	373	390	392	376	376	370	370
	26	123	124	117	119	129	130	129	130	124	124	126	127	134	134	129	130	153	153	125	125
	27	124	124	118	118	117	117	132	132	112	111	122	122	127	125	138	138	130	129	135	135
	28	106	106	121	121	121	120	108	108	110	112	119	119	113	114	123	124	113	114	110	110
C	40	—	—	96	97	86	87	—	—	88	89	—	—	93	93.5	93	94	85	85.5	95	96
	47	—	—	108	107	119	119	—	—	100	98	—	—	111	112	115	115	111	111	105	105
	48	(67)	(67)	65	66	73	73.2	—	—	60	61	—	—	70	70	71	71	69	69	63	63
	43	96	96	95	97.5	105	105	103	102	102	102	102	102	99	100	108	108	101	101	106	107
	43:1	90	90	89	88.5	99	99	(92)	(93)	94	95	96	97	95	95	103	103	92	92	99	99
	44	91	92	89	89.5	100	101	—	—	95	96	—	—	97	97	102	102	96	96	102	102
	49	—	—	21.5	22	24.8	25	—	—	23	23	21	21	24.4	25	27	27	23.4	24	29	28.5
	50	—	—	17.8	18.0	20.3	20	—	—	21	21	18	18	22	22	21	21	18.2	19.0	25.9	25.5
	45	(124)	(124)	120	120	127	127	—	—	121	121	—	—	124	124	131	131	120	120	130	130
	46	86	87	94	94	97	98	—	—	90	91	—	—	93	93	88	88	89	89	94	94.5
	54	24	24	24	23.7	26	26.5	—	—	21.1	22	—	—	29	29.1	23.4	23.8	23	23.4	25.5	25.7
	55	(48)	(48)	45.5	46	56	55.5	—	—	47	47	—	—	52	52	54	54.5	54	53.5	47.0	46.5
	51 sin	—	—	36.3	37.0	44	43.2	—	—	41.5	41.7	42.1	42.0	42	41.8	45.0	44.8	42.0	41.7	41.8	42.0
	51 dx	—	—	37.0	37.8	44	43.3	—	—	41.3	41.7	—	—	43.4	42.8	45.0	44.3	42.0	41.8	41.8	41.5
	52 sin	—	—	30.6	30.4	34.7	34.6	—	—	32.1	32.3	34.6	34.5	34.5	35.0	34.2	34.1	35.8	35.8	32.0	32.4
	52 dx	—	—	30.5	30.0	34.4	34.7	—	—	32.4	32.5	—	—	34.3	34.7	34.1	34.2	35.5	35.4	33.0	33.0
	62	45	45.5	48.3	48.0	46	45.6	—	—	44	43.8	—	—	46	46	45	45.4	41.0	41.0	44.7	44.2
	63	33.4	33.8	38.9	38.4	(39.3)	(39)	—	—	39.7	39.6	—	—	42	41.7	41	41.6	41.8	41.5	41.0	41.0
	64	9.0	9.0	7.0	7.3	15.3	15.5	—	—	9.3	10.5	—	—	16.0	16.0	10.3	10.0	14.0	14.3	14.0	14.5
D	72	—	—	73°	76°	85°	86°	—	—	84°	85°5	—	—	84°	85°	90°	90°	86°	87°	83°	83°
	72:5	—	—	40°7	41°1	87°3	48°6	—	—	38°1	36°7	—	—	41°7	43°6	42°1	41°9	45°	44°7	37°3	37°2
	72:3	—	—	74°6	75°2	61°	61°9	—	—	65°4	65°8	—	—	66°6	67°1	61°8	62°3	60°0	61°	66°2	67°1
	72:5	—	—	64°1	65°3	71°1	69°7	—	—	76°1	75°5	—	—	69°7	69°3	76°5	75°9	74°4	74°1	76°5	75°7
E	65	117	117	—	—	120	120	119	119	106	106	—	—	118	118	118	119	110	110	109	109
	66	93	92	83	83	94	94	101	101	82	82	—	—	96	95	97	97	84	85	93	94
	68 *	75	75	(75.5)	(75)	76.5	76	71	71.5	74	73.5	—	—	80	80	80.5	80.5	77	77	74	74
	Cd-Mi *	129	129	(118.5)	(118)	124.5	124	116.5	116	115	114	—	—	119	120	125	124	124	123	116	116
	68	34	34	30.4	30.3	31.2	31.0	30.1	30.2	29.6	29.4	26.1	26.0	33.3	34.0	27.9	27.8	30.5	30.8	29.0	29.0
	P_1H *	32	32	dx32.8	32.6	34.1	33.9	30.5	30.2	26.7	26.4	—	—	30.8	30.8	31.5	31.5	33.1	33.3	29.0	29.3
	M_1H *	—	—	dx27.3	27.6	29.0	29.2	—	—	27.5	27.6	—	—	28.7	28.7	—	—	—	—	25.8	26.1
	M_2P_1 *	—	—	dx24.7	24.8	26.4	27.0	—	—	26.5	26.9	—	—	26.4	27.0	—	—	—	—	27.9	27.9
	69:3	8.5	8.4	8.5	8.9	11.4	11.4	10.6	10.3	12.5	12.9	—	—	9.3	9.2	9.8	9.5	8.8	8.9	10.7	10.4
	Cd-Go *	62	62	(59)	(60)	68	69	56.5	56.0	60.5	60.0	—	—	67	67	70.0	70.5	66	67	60	60
	71	31.2	31.1	30.4	30.4	33.0	33.4	30.0	30.1	32.7	32.8	—	—	33.9	33.8	34.8	34.8	30.9	31.1	31.5	31.7
	70:3	15.0	15.0	11.3	11.4	13.6	13.7	13.3	13.4	13.3	13.6	—	—	11.7	11.8	14.8	14.8	12.6	12.7	11.9	11.8
	71:1	38.0	38.0	30.6	30.3	31.5	31.8	32.5	32.4	32.2	32.0	—	—	31.5	31.5	34.1	34.0	30.9	31.0	37.9	37.3
	Ang. *	122°	122°	(123°3)	(122°7)	119°	118°	131°	132°	118°	118°	—	—	108°	109°	112°	113°	120°	119°	119°	120°
	Alv *	—	—	12°8	11°7	11°3	16°3	—	—	—	—	—	—	4°3	4°5	—	—	—	—	6°3	6°1
	79:1	—	—	(92°5)	(91°5)	98°	98°	—	—	110°	108°75	—	—	96°	95°	108°	108°	99°	98°	115°	115°
	79:4	70°	69°5	66°3	66°5	68°	69°	76°	76°	64°	63°5	—	—	70°	70°	68°5	68°	64°	63°4	72°	71°
F	8/1 · 100	77.71	77.59	79.65	79.65	78.77	78.77	75.98	75.98	74.85	74.85	72.58	72.97	73.91	73.77	66.84	66.67	73.33	73.74	75.27	75.14
	17/1 · 100	76.00	76.44	73.84	73.84	69.83	69.27	70.39	70.39	73.10	72.51	65.05	65.41	68.48	68.31	64.80	65.13	73.33	73.74	75.82	75.69
	17/8 · 100	97.79	98.52	92.70	92.70	88.65	87.94	92.65	92.65	97.66	96.88	89.63	89.63	92.65	92.59	96.95	97.69	100.00	100.00	100.73	100.74
	Tr I *	232	233	322	322	211	211	212	212	122	122	111	111	112	112	112	112	123	123	133	133
	20a/1 · 100	64.00	63.73	63.95	63.95	61.45	60.61	—	—	59.65	60.23	56.99	56.22	61.41	61.75	56.12	56.41	62.78	63.13	64.29	64.09
	20a/8 · 100	82.35	82.22	80.29	80.29	78.01	76.95	—	—	79.69	80.47	78.52	77.04	83.09	83.70	83.97	84.62	85.61	85.61	85.40	85.29
	Tr I mod. *	232	222	322	322	211	211	—	—	111	112	111	111	113	123	113	113	123	123	123	123
	29/26 · 100	87.80	86.29	91.46	89.08	88.37	87.69	85.94	85.38	87.10	87.10	89.68	88.98	88.81	88.81	86.82	86.15	86.47	85.71	87.20	86.40
	30/27 · 100	91.13	88.71	89.83	90.68	90.60	90.60	90.15	90.15	89.29	91.89	92.62	91.80	90.55	91.20	89.86	90.58	90.00	90.70	88.15	88.15
	31/28 · 100	84.91	85.85	79.34	78.93	80.17	81.67	85.19	85.19	82.73	82.59	79.83	79.83	79.65	78.95	82.11	81.45	84.07	83.33	83.64	83.64
	9/10 · 100	78.45	78.45	78.38	77.68	81.51	80.83	86.84	86.52	85.59	84.82	79.46	79.65	79.20	78.95	85.09	85.22	81.90	81.20	86.67	87.39
	9/8 · 100	66.91	67.41	63.50	63.50	68.79	68.79	72.79	73.16	74.22	74.22	65.93	66.67	65.81	66.67	74.05	75.38	71.97	71.97	75.91	76.47
	47/45 · 100	—	—	90.00	89.17	93.70	93.70	—	—	82.64	80.99	—	—	91.13	90.32	87.79	87.79	92.50	92.50	80.77	80.77
	45/40 · 100 *	—	—	125.00	123.71	147.67	145.98	—	—	137.50	135.96	—	—	133.33	132.62	140.86	139.36	141.18	140.35	136.84	135.42
	48/40 · 100 *	—	—	67.71	68.04	84.88	84.71	—	—	68.18	68.54	—	—	75.27	74.87	76.34	75.53	81.18	80.70	66.32	65.63
	48/45 · 100 *	(54.03)	(54.03)	54.17	55.00	57.48	58.03	—	—	49.59	50.41	—	—	56.45	56.45	54.20	54.20	57.50	57.50	48.46	48.46
	Tr I fac. *	(—2)	(—2)	112	111	133	333	—	—	211	211	—	—	233	123	332	332	333	333	211	211
	52/51 · 100 sin	—	—	84.30	82.16	78.86	80.09	—	—	77.35	77.46	82.19	82.14	82.14	83.73	76.00	76.56	84.76	85.85	76.56	77.14
	52/51 · 100 dx	—	—	82.43	79.37	78.18	80.14	—	—	78.64	77.94	—	—	79.03	81.07	75.78	77.20	84.52	84.69	78.95	79.33
	50/44 · 100	—	—	20.00	20.11	20.50	19.80	—	—	22.11	21.88	—	—	22.68	22.68	20.59	20.59	18.96	19.79	25.00	27.94
	54/55 · 100	(50.00)	(50.00)	52.75	51.52	46.43	47.75	—	—	44.89	46.81	—	—	55.77	55.96	43.33	43.67	42.59	43.74	54.26	55.27
	64/63 · 100	26.95	26.63	17.99	19.01	(38.93)	(39.74)	—	—	23.43	26.52	—	—	38.10	38.37	25.12	24.04	33.49	34.46	34.15	35.12
	63/62 · 100	74.22	74.29	80.54	80.00	(85.43)	(85.53)	—	—	90.23	90.41	—	—	91.30	90.65	91.11	91.63	101.95	101.22	91.72	92.76
	16/7 · 100	92.37	92.58	81.52	82.65	85.35	86.52	90.59	91.13	90.06	90.71	79.41	79.82	86.37	87.14	82.50	84.67	79.11	78.61	83.98	84.32
G	68/65 · 100	64.10	64.10	—	—	63.75	63.33	59.66	60.08	69.81	69.34	—	—	67.80	67.80	68.22	67.65	70.00	70.00	67.89	67.89
	66/65 · 100	79.49	78.63	—	—	78.33	78.33	84.87	84.87	77.36	77.36	—	—	81.36	80.51	82.20	81.51	76.36	77.27	85.32	86.24
	70:3/71:1 · 100	39.47	39.47	36.93	37.62	43.17	43.08	40.92	41.36	41.30	42.50	—	—	37.14	37.46	43.40	43.53	40.78	40.97	31.40	31.47
	65/Cd-Mi · 100 *	90.70	90.70	—	—	96.39	96.77	102.15	102.59	92.17	92.98	—	—	99.16	98.33	94.40	94.44	88.71	89.43	93.97	93.97

Craniometric angles

Females

	Index (Gravelle No.)	97b		98a		101		106		224		225		226		227	
A	38	1210	1220	1165	1140	1160	1180	—	—	—	—	—	—	—	—	—	—
	38 d1	1271	1266	1270	1270	1268	1268	(1225)	(1226)	1396	1353	(1462)	(1464)	1368	1360	1410	1401
	38 d2	1158	1158	1195	1197	1246	1246	1187	1132	1414	1416	1460	1434	1290	1307	1426	1456
	1	177	177	175	175	177	177	166	167	183	183	185	184	183	185	191	191
	2	168	168	165	165	171	171	165	165	179	179	178	180	178	178	183	182
	3	164	165	159	164	171	171	167	166	168	168	170	171	178	178	180	180
	26	159	159	160	161	164	163	163	163	165	165	168	168	175	175	177	176
	29	103	104	103	103	111	111	104	108	110	110	114	114	112	112	111	112
	30	112	112	101	101	107	107	116	116	(116)	(115)	115	115	110	110	119	120
	31	86	85.5	96	96	91	90	86	86.5	99	99	105	105	98	97.5	96	95.5
	8	109	108	97	97.5	95	95	92	91.5	101	102	101	102	(102)	(103)	(111)	(111)
	9	125	126	131	131	130	130	127	127	141	140	138	138	129	129	132	132
	9	88	88	90	90.5	88	88	90	90	96	96	94	94	94	94	100	100
	10	110	111	102	103	109	109	114	114	(123)	(122)	—	—	110	111	115	116
	11	110	112	118	117	112	111	—	—	122	120	110	119	(109)	(109)	122	120
	12	104	102	107	109	109	103	—	—	118	117	112	115	100	100	109	109
	13	99	99	108	108	94	94	—	—	100	99	100	105	94	93	(103)	(104)
	17	132	131	128	128	127	126	(124)	(125)	127	126	(141)	(142)	(134)	(133)	(132)	(131)
	20a	103	103	104	105	110	110	106	105	115	113	118	118	119	110	117	117
	20b	102	103	105	107	109	108	—	—	113	112.5	116	116	108	109	115	114
	21	105	104	106	106	111	111	109	107	116	117	117	117	111	113	119	118
	7	37.5	37.6	38.2	38.2	35.2	35.2	32.8	32.5	38.8	38.5	34.4	34.7	34	34.3	36.5	36.5
	16	34	34.3	31.8	31.9	28.5	27.7	27.1	27.3	(29)	(29.2)	33.5	33.8	30.5	30.9	27.5	27.8
B	23	494	493	488	490	492	495	—	480	516	518	517	517	494	496	(523)	(523)
	24	290	291	287	290	297	300	—	—	325	323	329	328	304	308	315	314
	25	346	346	341	341	359	359	351	350	359	358	382	381	366	363	373	374
	26	120	120	119	116	130	129	123	123	123	122	128	128	126	126	125	125
	27	122	125	110	109	120	119	123	128	127	125	127	126	125	124	134	132
	28	120	121	116	116	109	111	105	104	109	111	127	129	115	115	114	116
C	40	94	94.5	85	85	91	91.5	—	—	(102)	(102)	(90)	(91)	(93)	(96)	(100)	(101)
	47	100	100	101	102	(96)	(96)	—	—	120	120	(114)	(114)	110	110	—	—
	48	61	61.5	71	71	56.5	57.5	—	—	(65)	(65)	(75)	(75)	72	71	72	72
	43	97	97.5	98	97	95	95	95	95	(100)	(100)	101	101	99	100	105	105
	43(1)	91	92	88	88	88	88	90	90.5	90	91	92	93	93	93	97	98
	44	93	93	90	90	90	90	91	91.5	93	93.5	93	93	—	—	99	99
	49	24	24	22.5	22	24.3	24.6	23	23	24.7	24	—	—	25	25	(27)	(27)
	50	20	20.3	15.4	16	20.6	20.5	19.8	20	21	21	—	—	(22)	(21)	—	—
	45	126	127	123	122	115	116	(116)	(116)	—	—	125	125	(120)	(120)	127	128
	46	96	97	89	89	88	88	79	80	88	89	93	93	87	88	90	98
	54	24.9	24.3	24.4	24.6	24.1	24.1	—	—	26	26.5	27.0	26.9	22	22	—	—
	55	46	46	55.5	55.5	43	43.5	—	—	50.0	50.0	—	—	52	51.5	(54)	(54.9)
	51 sin	38.5	38.7	40	40.2	35.6	34.8	39.4	39.8	(38.0)	(38.0)	—	—	42.5	42.9	—	—
	51 dx	38.6	38.1	39	39.4	36.2	36.8	39.0	38.8	(39.9)	(40.0)	—	—	—	—	41.2	41.4
	52 sin	32.8	32.7	35.5	35.3	27.8	27.7	30.6	30.4	33.5	33.5	—	—	37.5	37.2	(34)	(34.3)
	52 dx	31.4	33.0	35.3	35.6	27.3	27.5	—	—	—	—	—	—	(36)	(35.7)	34.2	34.0
	62	(45)	(44)	43.7	42.6	44.5	44.8	—	—	46.0	46.4	45.9	45.7	—	—	—	—
	63	42	42	(36)	(36)	39.2	39.4	—	—	37.0	37.1	36.9	38.0	41	40.6	40	40.7
	64	8.6	8.5	—	—	6.1	6.4	—	—	11.2	11.1	—	—	13	13.8	—	—
D	72	89°	88°.5	85°	86°	92°	82°.5	—	—	87°	87°	(89°)	88°	(85°)	(86°.5)	92°	92°
	72:5	35°.4	35°.7	46°.2	45°.1	39°.4	36°.3	—	—	(38°.75)	(38°.75)	(45°.1)	(45°.3)	(42°)	(41°.5)	(39°.5)	(39°.4)
	72:8	63°.3	63°.7	58°.4	58°.1	70°	70°.4	—	—	(71°.25)	(71°.25)	(56°.2)	(59°.6)	(61°.9)	(63°.9)	(62°)	(62°.8)
	72:3	81°.3	80°.5	76°.4	76°.9	74°	73°.3	—	—	(70°)	(70°)	(76°.3)	(73°.3)	(75°.2)	(74°.5)	(78°.5)	(77°.8)
E	65	108	109	115	115	—	—	—	—	112	112	116	116	114	114	123	123
	66	90	90	91	91	—	—	89	89	89	89	94	93	94	94	99	99
	68 *	76	75.5	74	74	—	—	71	70	79	79	76.5	76.5	76.5	76.5	75	74.5
	Cd-Ms *	115	115	115	115	—	—	100	105	124	124	120	119	117	117	122	121
	69	30.3	30.6	27.9	27.5	28.3	28.5	28.6	28.5	32.5	32.3	30.7	30.5	31.1	31.4	—	—
	P_1H *	30.1	29.9	30.7	30.8	29.6	29.2	28.7	28.7	32.7	32.6	28.5	28.7	30.7	30.4	—	—
	M_1H *	22.4	22.7	24.3	24.6	22.1	22.6	—	—	28.8	28.8	26.4	26.1	26.2	26.4	—	—
	M_2P_1 *	26.5	26.5	26.7	27.0	23.7	23.6	—	—	26.8	26.8	26.4	26.4	25.3	25.4	—	—
	69:3	10.2	10.3	11.3	11.0	10.2	10.5	9.3	9.4	12.5	12.6	10.2	10.2	11.9	11.6	10.1	10.1
	Cd-Gn *	57	57.5	61	60	—	—	50.5	51	61	61	62.5	62	62.5	62.5	61.5	62
	71	31.4	31.6	28.9	29.0	31.4	31.2	28.3	28.4	35.0	35.3	30.2	30.2	29.6	29.6	29.1	29.0
	70:3	9.8	9.8	11.1	11.1	12.1	12.2	12.4	12.5	13.0	13.1	dx 10.7	10.6	13.1	13.1	13.5	13.5
	70:1	39.8	39.5	29.1	29.3	29.4	29.7	28.1	28.8	34.1	33.4	dx 34.1	34.0	30.5	30.2	35.5	36.1
	Ang. *	118°	118°	118°	114°	—	—	119°	118°	123°	122°.5	122°	122°	114°.5	114°.5	125°	126°.5
	Alv. *	16°.8	17°.7	13°.6	13°.2	15°.4	15°.6	—	—	8°.1	7°.5	4°.3	5°.8	10°.3	9°.5	—	—
	79:1	103°	101°	—	—	—	—	—	—	91°.5	91°.5	102°	103°	100°	99°	—	—
	79:4	70°.5	70°	67°	67°	—	—	72°.5	73°	62°	62°	69°	69°	69°	69°	71°	70°
F	8/1 · 100	71.19	71.19	74.86	74.86	73.45	73.45	75.00	76.09	77.05	76.50	74.59	75.00	70.49	70.49	69.11	69.11
	17/1 · 100	74.58	74.01	73.14	73.14	71.75	71.19	(73.81)	(74.85)	69.40	68.85	(76.22)	(77.17)	(73.22)	(72.68)	(69.11)	(68.39)
	17/8 · 100	104.76	103.97	97.71	97.71	97.69	96.92	(97.64)	(93.45)	90.07	90.00	(102.17)	(102.96)	(103.88)	(103.10)	(100.00)	(99.24)
	Tr I *	123	123	122	122	122	112	(222)	(221)	211	211	(133)	(133)	(123)	(123)	(113)	(113)
	20a/1 · 100	58.19	58.19	59.43	60.00	62.15	62.15	63.10	62.87	61.75	61.75	63.78	64.1[illegible]	60.11	60.11	61.26	61.26
	20a/8 · 100	81.75	81.28	79.38	80.15	84.62	84.62	82.46	82.68	80.18	80.71	85.31	85.51	86.27	86.27	88.64	88.64
	Tr I mod. *	112	112	111	112	123	123	223	222	222	222	(123)	(123)	113	113	113	113
	29/26 · 100	85.83	86.67	89.57	89.79	85.38	86.00	84.55	84.55	89.43	90.16	89.06	89.06	88.89	88.89	88.80	89.60
	30/27 · 100	98.89	89.60	91.82	92.66	89.17	89.92	89.43	89.71	(91.34)	(92.00)	90.55	89.84	88.00	88.71	88.81	90.91
	31/28 · 100	86.00	84.65	82.76	82.76	83.49	81.08	81.90	83.98	86.24	84.69	82.68	84.00	85.22	84.78	84.21	83.19
	9/10 · 100	80.00	79.28	88.24	87.86	80.73	80.73	78.95	78.95	(78.05)	(78.69)	—	—	84.59	83.78	86.96	86.21
	9/8 · 100	68.84	68.84	68.70	69.08	67.69	67.69	70.87	70.87	68.09	68.57	68.12	67.39	72.87	72.09	75.76	75.76
	47/45 · 100	79.37	78.74	82.11	83.61	(83.48)	(82.76)	—	—	—	—	(91.20)	(91.20)	(91.67)	(91.67)	—	—
	45/40 · 100 *	134.04	134.39	144.71	143.59	126.37	126.78	—	—	—	—	138.89	137.36	129.03	125.00	127.00	126.73
	48/40 · 100 *	64.89	65.08	83.53	83.53	62.42	62.84	—	—	(63.73)	(63.73)	83.33	82.42	77.42	73.96	72.00	71.29
	48/45 · 100 *	48.41	48.43	57.72	58.20	48.70	48.57	—	—	—	—	(60.00)	(60.00)	(60.00)	(59.17)	56.69	56.25
	Tr I sec. *	211	211	333	333	111	111	—	—	—	—	(233)	(233)	(133)	(123)	123	123
	52/51 · 100 sin	84.60	84.36	88.75	87.81	79.41	77.37	78.46	76.28	(88.10)	(88.16)	—	—	88.24	86.71	—	—
	52/51 · 100 dx	86.53	86.40	90.51	90.36	75.41	74.73	—	—	—	—	—	—	—	—	83.01	82.13
	50/44 · 100	21.51	21.87	17.33	17.78	22.22	22.78	21.81	21.96	22.38	22.46	—	—	—	—	—	—
	54/55 · 100	51.04	51.04	47.96	46.35	56.05	55.40	—	—	52.00	50.48	—	—	42.31	42.71	—	—
	64/63 · 100	19.05	20.24	—	—	15.31	16.24	—	—	30.27	29.92	—	—	31.71	33.99	—	—
	63/62 · 100	(93.33)	(95.45)	(82.38)	(84.51)	88.09	87.95	—	—	80.43	79.96	82.79	83.15	—	—	—	—
	16/7 · 100	90.67	91.76	82.32	82.51	80.97	78.69	84.69	84.61	(75.32)	(75.84)	97.67	97.41	89.71	88.61	75.34	76.18
U	68/65 · 100	70.37	69.27	64.35	64.35	—	—	—	—	70.54	70.54	64.22	64.22	67.11	67.11	61.98	61.57
	66/65 · 100	83.33	82.57	79.13	79.13	—	—	—	—	79.46	79.46	81.03	80.17	82.46	82.46	81.82	81.82
	70:1/71(1) · 100	24.52	24.80	35.19	33.03	40.80	40.80	43.82	43.40	38.12	39.22	31.38	31.18	42.95	43.38	37.00	37.40
	65/Cd-Ms · 100 *	93.91	94.78	100.00	100.00	—	—	—	—	90.32	90.32	96.67	97.48	97.44	97.44	99.19	100.00

Table 24

SKELETAL MEASUREMENTS AND INDICES

MALES

Individual (Grave) No.		1 dx	1 sin	4 dx	4 sin	5 dx	5 sin	6 dx	6 sin	12 dx	12 sin	53 dx	53 sin	89a dx	89a sin
A) Humeri															
Maximum length	Hum. 1	341	344	365	361	363	358	—	338	311	312	352	343	340	336
Superior breadth	3	52	51.5	55.5	53	51	51	—	48	46	46	54.5	54.5	—	51
Epicondylar breadth	4	67	66	70	69.5	63	—	65	64	58	58	69	68	62	61.5
Max. diameter of middle of diaphysis	5	25	23	25.4	24	24	23.5	27	26.5	23	23	27	25	25	24.5
Min. " " " "	6	21	21	19.5	19.0	18	18	18.5	18.5	18	20	20	21	19	18
Min. circumference of diaphysis	7	69	68	65	66	65	65	67	65	56.5	56.0	68	66	68	66
Caput: vertical diameter	C 8	50	49	54	52.5	48.5	48	—	46	42	41.5	50.5	50	51	50
" horizontal diameter	C 9	46	47	47	47	(42)	45	—	43	40.5	39	47.5	48	44	45
Thickness of wall of diaphysis (Gejvall)	GI	4.5	4.6	4.4	4.2	5.6	5.5	1.9	1.2	2.5	2.7	3.5	3.4	3.4	2.8
Caput circumference	8	150	150	—	155	(140)	(147)	—	140	126	125	154	154	152	151
Diaphysis cross-section index	6/5·100	84.0	91.3	76.8	79.2	75.0	76.6	68.5	69.8	78.3	87.0	74.1	84.0	76.0	73.5
Length - thickness index	7/1·100	20.2	19.8	17.8	18.3	17.9	18.2	—	19.2	17.9	17.9	19.3	19.1	20.0	19.7
B) Radii															
Maximum length	Rad. 1	251	255	272	274	267	264	262	258	—	239	—	—	249	251
Physiological length	2	232	234	254	256	251	247	244	241	227	225	—	—	230	236
Minimum circumference	3	47	46	41.5	41	43	42	44	42	38.5	38	45.5	43.0	42	42
Transverse diameter of diaphysis	4	19	18	17.0	17.5	15.0	15.5	20	18	16.5	16.0	19.0	17.0	19	17.5
Sagittal diameter of diaphysis	5	13.5	13.5	13	12	12	12	12	11	11.0	10.5	14	13	12	12
Wall thickness (Gejvall)	GI	3.6	3.7	4.3	4.4	4.1	4.0	2.2	1.9	3.3	3.3	3.1	3.1	2.9	2.8
Length - thickness index	3/2·100	20.3	19.7	16.3	16.0	17.1	17.0	18.0	17.4	17.0	16.9	—	—	18.3	17.8
Diaphysis cross-section index	5/4·100	71.1	75.0	76.5	68.6	80.0	77.4	60.0	61.1	66.7	65.6	73.7	76.5	63.2	68.6
C) Ulnae															
Maximum length	Uln. 1	270	269	296	—	(280)	281	279	277	255	254	285	286	272	271
Physiological length	2	236	235	259	—	254	248	246	244	228	225	252	254	239	239
Circumference	3	38	38	35.5	35	36.5	36.5	38	37	37.5	37.5	42	38.5	40	38
Length - thickness index	3/2·100	16.1	16.2	13.7	—	15.2	14.7	15.4	15.2	16.4	16.7	16.7	15.2	16.7	15.9
D) Sacrum															
Arch length (5) = no. of incorporated vertebrae	Sacr. 1	(5) 121		(5) —		(5) 122		(6) 134		(4) (121)		(5) 130		(5) 147	
Anterior straight length	2	105		—		107		116		(111)		111		100	
Anterior superior straight breadth	5	109		125		117		—		117		121		119	
Maximum arch height	6	23.4		—		27.5		34		(18)		29.7		27.5	
Straight breadth at middle	9	85		102		97		—		92		100		99	
Median sagittal section of base	18	34		—		31		31		32		37		34	
Maximum transverse section of base	19	45		54		56.5		47		57.5		60.5		62	
Promontory angle	22	62°		—		61°		55°		61°		56°		60°	
Length - breadth index	5/2·100	103.8		—		109.3		—		(105.4)		109.0		119.0	
Superior breadth index	9/5·100	78		81.6		82.9		—		73.6		82.6		83.2	
Arch-chord index	2/1·100	86.8		—		87.7		86.5		[91.7]		85.4		85.5	
Chord - height index	6/2·100	22.8		—		25.7		29.3		(16.2)		26.8		27.5	
Index of base of sacrum	18/19·100	75.6		—		54.9		66		55.7		61.2		54.8	
E) Pelvis															
Pelvic height	Pelv. 1	223		233		237		216		206		238		247	
Maximum breadth of pelvis	2	253		288		253		—		260		296		293	
Outer sagittal pelvic diameter	3	171		—		(160)		—		162		185		(180)	
Bispinal breadth	5	214		(225)		215		—		220		221		(265)	
Conjugata vera	23	104		—		99		—		(95)		102		124	
Conjugata diagonalis	23:2	118		—		126		—		(113)		112		133	
Pelvic inlet: transverse diameter	24	118		132		125		—		127		127		131	
" " sagittal diameter	26	102		—		90		—		(102)		109		118	
Pelvic outlet: transverse diameter	27	97.5		95		98		—		102		89		105	
Inferior symphysis angle	33	77°		—		—		—		85°		47°5		63°	
Breadth - height index	1/2·100	88.1		80.9		93.7		—		79.2		80.4		84.3	
Pelvic inlet index	23/24·100	88.1		—		79.2		—		(74.8)		80.3		94.7	
Pelvic outlet index	26/27·100	104.6		—		91.8		—		(100.0)		122.5		112.4	
Breadth index	24/2·100	46.6		45.8		49.4		—		48.8		42.9		44.7	
F) Femora															
Maximum length	Fem. 1	468	470	506	507	495	495	455	458	440	440	486	487	470	471
Physiological length	2	460	467	505	505	492	494	450	454	436	435	481	483	465	467
Circumference of middle of diaphysis	8	95	94	97	95.5	91	91	90.5	89	82	85	88.5	89	91	89
Caput circumference	20	155	154	161	161	154	151	150	(147)	149	149	161	160	168	163
Epicondylar breadth	21	87	87	90	89	83	81	—	—	73	72	86.5	87	86	85.5
Collum - diaphysis angle	29	130°	131°	134°	134°	135°	135°	133°	132°	138°	139°	138.5°	135°	130°	127.5°
Sagittal diameter of middle of diaphysis	6	32	31	32	32	31.5	30	31	29	26	26	28	29	29	28.5
Transverse diameter of middle of diaphysis	7	29	28	31	31	27	28	26	27	28	30	28	28	30	30
Wall thickness (Gejvall)	GI	5.7	5.6	5.8	5.9	6.8	6.8	3.8	3.8	4.4	4.4	4.8	5.0	4.0	3.9
Length - thickness index	8/2·100	20.7	20.1	19.2	18.9	18.5	18.4	19.9	19.6	18.8	19.5	18.4	18.4	19.6	19.1
Robusticity index	6+7/2·100	13.5	12.6	12.5	12.5	11.9	11.7	12.7	12.3	12.4	12.9	11.6	11.8	12.7	12.5
Index pilastricus	6/7·100	110.3	110.7	103.2	103.2	116.7	107.1	119.2	107.4	92.9	86.7	100.0	103.6	96.7	95.0
G) Tibiae															
Length	Tib. 1	375	375	396	397	393	391	366	367	343	347	378	378	382	—
Maximum length	1a	381	383	403	406	402	401	(370)	371	356	342	387	389	391	—
Max. proximal epiphysis breadth	5	81	82	—	82	77	75	(75)	76	65	65	81.5	80.5	80	81
Max. distal " "	6	56	55	—	57.5	55	52	51	54	49	49	56	54	57.5	53
Max. diam. of middle of diaphysis	8	33	31	31.5	31	31	30.5	33	33	26.5	26.5	31.5	31.5	31.5	—
Max. diam. at for. nutr. (middle of diaph.)	8a	36.5	35.5	37	36	35	35	38	38	30	29.5	35	35.5	37	37.5
Transverse diameter of middle of diaphysis	9	23.5	23	25	24.5	20	20	23	22	19	19	21	21	24	—
Transv. diam. at for. nutr. (middle of diaph.)	9a	26	28	29	28	22	22	25	25	23.5	24	26	26	29.5	(32)
Min. circumference of diaphysis	10b	75.5	75.5	75.5	75.5	71	68.5	75	74	67	65.5	74	74	79	(92)
Wall thickness of diaphysis (Gejvall)	GI	5.0	5.3	6.1	6.2	5.5	5.0	4.7	5.0	4.7	4.8	3.9	3.7	4.3	3.6
Diaphysis cross-section index	9/8·100	73.4	74.2	79.4	79.0	64.5	65.6	69.7	66.7	71.7	71.7	66.7	66.7	76.2	—
Length - thickness index	10b/1·100	20.1	20.2	19.1	19.0	18.1	17.1	20.5	20.4	19.0	18.9	19.6	19.4	20.7	—
Index cnemicus	9a/8a·100	71.2	78.9	78.4	77.8	62.9	62.9	65.8	65.8	78.3	81.4	74.3	73.2	79.7	(85.3)
H) Fibulae															
Maximum length	Fib. 1	375	376	394	397	395	392	—	363	—	—	376	375	—	—
Max. diam. of middle of diaphysis	2	14	14	14	14.5	15	13	—	14.5	14	13	18.5	18	18	—
Min. diam. of middle of diaphysis	3	12	12	12	11.5	11	11	—	11.5	12	11.5	15	15	12	—
Circumference of middle of diaphysis	4	41.5	41.5	41.5	42	42	41	—	41	44	41.5	54.5	52	31	52
Min. circumference of diaphysis	4a	33.5	34.5	33	35	34	31.5	—	36	28.5	29.0	42.5	38.5	41.5	45
Proximal epiphysis breadth	4:1	29.5	28.5	—	31	31	—	—	—	—	—	32	31	—	31
Distal epiphysis breadth	4:2	28	27.5	30	30	27	26	—	27	25	25	30	28.5	31	31
Diaphysis cross-section index	3/2·100	85.7	85.7	85.7	79.3	73.3	84.6	—	79.3	85.7	88.5	81.1	83.3	66.7	—
Length - thickness index	4a/1·100	8.9	9.2	8.4	8.8	8.6	8.0	—	9.9	—	—	11.3	10.3	—	—

Skeletal series

Males

Index (Grave) No.	89c		93b		99a		104		105		109a		111		115a		116a		117	
Hum. 1	322	321	326	328	321	316	332	328	329	323	330	320	362	355	377	379	356	352	355	350
3	50	48	50	47.5	49	48	54.5	53	50	48	54	55	55	53.5	59	57	55	51.5	58.5	55
4	62	61	70.5	67	62.5	60.5	64	64	59	60	66	66.5	72.5	71	73.5	70	72	70.5	65.5	63
5	22	21.5	24	22	20	18.5	24	23	23	24.5	25	26.5	30	29	28.5	29	25.5	25	24	22
6	16	15	17	17	15.5	15.0	18	18	16	18	19.5	21	20.5	21	20	20	20.5	19	15.5	16
7	62	60.5	63.5	61	55.5	52	65.5	61	61	64	65	70	73.5	74.5	69	70	74	69.5	67	61
C∅	44.5	43.5	50	46.5	46	45	51	50.5	46	44	51	52	56	51	56	53.5	51	50	52	51
CΘ	44	43	47.5	45	44	45	49	47	43	41	48	47	50	46	51	51	49	47	47	48
GI	3.1	3.1	5.0	4.9	3.6	3.9	2.9	2.7	3.4	3.1	4.1	3.9	4.0	4.1	4.4	4.5	4.5	4.5	4.4	4.4
8	137	135	153	143	141	139	156	155	139	135	150	154	165	152	164	162	157	151	154	151
6/5·100	72.7	69.8	70.8	77.3	77.5	81.1	69.2	78.3	69.6	73.5	78.0	79.2	68.3	72.4	70.2	69.0	80.4	76.0	77.1	81.8
7/1·100	19.3	18.8	19.3	18.6	16.7	16.5	19.7	18.6	18.6	19.8	19.7	21.9	20.7	21.0	18.3	18.5	20.8	19.7	18.9	17.4
Rad. 1	246	240	254	253	—	238	250	245	—	239	246	246	268	267	281	281	253	260	263	(259)
2	232	226	237	233	—	221	230	227	—	224	228	227	249	248	263	263	246	245	244	(232)
3	40	39	46	46	36.5	34	41	40.5	—	41.5	46.2	46	44.5	44.5	49	47	49	46	43	(43.5)
4	16.5	16	19	19	15	15	18	17	—	16.0	18	17	19	19	20	18	19	19	15.5	(16.5)
5	11	11	11.5	11.5	10	10	11	11	—	12.0	13	13	12	12	13.5	14	13	12.5	13	(13)
GI	2.7	2.7	3.3	3.3	2.6	2.3	2.5	2.3	—	3.1	3.7	3.8	3.7	3.6	5.0	5.6	3.2	3.2	3.0	4.0
3/2·100	17.2	17.3	19.4	19.6	—	15.4	17.8	17.8	—	18.5	20.4	20.3	17.9	17.9	18.6	17.9	19.5	18.8	17.6	(18.8)
5/4·100	66.7	68.8	60.5	60.5	66.7	66.7	61.1	64.7	—	75.0	72.2	76.5	63.2	63.2	67.5	77.8	68.4	65.8	83.9	(66.7)
Uln. 1	250	245	—	266	252	248	—	273	—	255	269	267	293	292	305	301	269	267	269	(267)
2	234	228	—	256	—	—	—	241	—	229	236	233	260	257	269	269	260	258	252	(224)
3	35.5	34	(42)	39	33.5	32.5	—	36	36.5	34	39	41	41.5	42.5	41.5	40.5	41.5	40	38.5	(34.5)
3/2·100	15.2	14.9	—	16.3	—	—	—	14.9	—	14.8	16.5	17.6	16.0	16.5	15.4	15.1	16.0	15.5	15.3	(15.4)
Sacr. 1	(7) —		(6) 140		(5) 116		(6) 125		(5) 112		(5) 134		(6) 120 (155)		(5) 123		(5) 122		(5) 120	
2	—		118		101		120		90		121		104 (138)		114		104		108	
5	110		117		110		109		116		113		114		133		122		117	
6	—		35		24.5		29		30		26		25		17		23		23	
9	—		101		76		90		97		101		89		112		103		96	
18	—		34.5		31		33		33		39		38		38		37		35	
19	51		56		59		55		48		69		63		67		61		57.5	
32	—		53°		58°		67°5		54°		61°		76°		64°		71°		63°	
5/2·100	—		99.2		108.9		90.8		128.9		93.4		109.6 (82.6)		116.7		117.3		108.3	
9/5·100	—		86.3		69.1		82.6		83.6		89.4		78.1		84.2		84.4		82.1	
2/1·100	—		84.3		87.1		96.0		80.4		90.3		86.7 (88.5)		92.7		85.2		90.0	
6/2·100	—		29.7		24.3		24.2		33.3		21.5		24.0		14.9		26		21.3	
18/19·100	—		61.6		52.5		60.0		68.8		56.5		60.3		56.7		60.7		60.9	
Pelv. 1	211		236		x) 206		220		204		220		235		245		237		230	
2	253		266		x) 240		266		252		276		276		294		285		276	
3	159		172		173		174		155		181		186		(182)		180		175	
5	213		211		193		222		205		240		248		223		250		247	
23	(95)		107		107		104		83		94		100		113		96		101	
23a	(108)		121		120		119		108		114		110		139		114		124	
24	124		117		111		121		136		124		121		138		136		127	
26	108		89		113		86		106		105		116		106		124		101	
27	84		82		78		101		112		95		79		108		96		79	
33	57°		47°		54°		66°		80°		60°		60°		67°		44°		50°	
1/2·100	83.4		88.7		85.8		82.7		81.0		79.7		85.1		77.4		83.2		82.7	
23/24·100	(76.6)		88.0		96.4		86.0		61.0		75.8		82.6		81.9		70.6		79.5	
26/27·100	125.0		108.5		144.9		85.1		94.6		110.5		139.2		98.1		129.2		127.8	
24/2·100	49.0		44.0		46.3		45.5		54.0		44.9		43.8		46.9		47.7		45.7	
Fem. 1	448	445	—	404	432	431	457	456	447	449	467	462	488	489	526	530	489	492	471	468
2	441	441	—	400	430	430	451	456	443	447	463	457	484	485	525	529	486	486	470	467
8	81.5	82	—	91	75.5	72	88	86	87.5	87	94.5	95	98.5	101	99	96	95	93	90	89.5
20	141	143	—	150	138	137	157	155	146	147	169	170	158	153	177	177	162	160	158	157
21	76	78	—	84.5	79	79	89.5	88.5	78	80	87	87.5	96	95	89	88	85	85.5	83	84
29	139°	138°	—	139°	136°	135°	125°	134°	125°	125°	138°5	138°	127°	126°	135°	135°	129°5	130°	132°5	132°
6	27.5	26	—	29	23.5	23	29	28	28	27.5	32	33	33	34	38	34	30	30	28.5	29
7	25	27	—	30.5	23	23.5	27	27	28.5	28	29	30	30	31	30	30	31	30	29.5	30
GI	5.9	6.0	—	4.8	4.8	5.2	8.9	5.1	4.3	4.3	5.2	5.4	5.6	5.5	6.1	6.0	5	5	5.9	6.6
8/2·100	18.5	18.6	—	19.6	16.9	16.7	19.5	18.9	19.8	19.5	20.5	20.8	20.4	20.8	18.9	18.0	19.5	19.1	19.1	19.2
6+7/2·100	11.9	12.0	—	12.9	10.8	10.8	12.4	12.1	12.8	12.6	13.2	14.4	13.0	13.4	12.4	12.1	12.6	12.3	12.3	12.6
6/7·100	110.0	96.3	—	95.1	102.2	97.9	107.4	103.7	98.2	98.2	110.3	110.0	110.0	109.7	116.7	113.3	96.8	100.0	96.6	96.7
Tib. 1	—	—	—	381	(340)	(338)	362	365	348	353	366	364	396	397	396	394	393	389	374	376
1b	340	—	—	389	(348)	(348)	370	372	356	360	373	371	401	405	423	422	403	399	385	386
3	—	72	—	78	72.5	72	82	83	73	76	79	79	77.5	79	83	81	80	78.5	77	77
6	48.5	—	—	52	—	—	54	54	54	53	51	50	57	54.5	61	59	56.5	56.0	51	52.5
8	31	29	—	30	26.5	27	30	29.5	29	29	32.5	33	31.5	31.5	35	34	34	34	32	32
8a	34	33	—	35.5	31.5	33	34	35	32.5	32.5	40	39	38	37	40	37	38	39	33	35
9	22	21.5	—	22	19.5	19.5	21	21	20.5	21.5	25	25	22.5	24	26	26	24.0	24.5	22	23
9a	23	23	—	26.5	24	24.5	25	26	24	24	31	30	29	28	28.5	28.5	27	28	25.5	24
10b	69	67	—	71.5	65	64.5	71.5	72	71	71	80.5	82	79.5	80	79	79	77	78	75	74
GI	4.0	4.0	—	2.9	3.8	3.7	3.6	3.8	4.0	4.0	5.2	5.2	5.8	5.7	4.9	4.9	4.1	4.0	3.8	3.7
9/8·100	71.0	74.1	—	73.3	73.6	72.2	70.0	71.2	70.4	74.1	76.9	75.8	71.4	76.2	74.3	76.5	70.6	72.1	68.8	68.8
10b/1·100	—	—	—	18.8	(19.1)	(19.1)	19.8	19.8	20.4	20.1	22.0	22.5	20.1	20.1	19.9	19.1	19.6	20.1	20.1	19.7
9a/8a·100	67.6	69.7	—	74.6	76.2	74.2	73.5	74.3	73.8	73.8	77.5	76.9	76.3	75.7	71.2	77.0	71.1	71.8	72.9	68.6
Fib. 1	—	—	—	374	—	(321)	367	(363)	348	—	364	—	390	396	(402)	(400)	386	382	373	375
2	13.5	14	—	16	17	16.0	16	17	17	16	16	17	17	18	18	16	16	16	17	18
3	11	10	—	12	13	12	12	10.5	15	12	13	13	10.5	11	13	13	13	12	13	13
4	40	38.5	—	46	50.5	45.5	45	42.5	50	47	48.5	48.5	44	44	50.5	47	47	48	48	49
4a	30	31.5	—	37	31	30.8	35.5	39	37	35.5	44	42	34.5	33.5	38	36.5	36	35	36.5	40
4(1)	—	20	—	28.5	—	—	32.5	32	27	—	31	—	29	—	—	—	29	29	32	33
4(2)	—	—	—	28	—	—	29	27.5	28	26	31	31	29	31	27.5	27	31.5	31.5	29	29
3/2·100	81.5	71.4	—	76	76.5	82.6	75.0	61.8	76.5	75.0	81.3	76.5	61.8	88.9	72.2	81.3	81.3	75.0	76.5	72.2
4a/1·100	—	—	—	9.9	—	(9.8)	9.7	(9.5)	10.9	—	12.1	—	8.7	8.5	9.5	9.0	9.3	9.2	9.7	10.7

x) Without crista iliaca

Table 24 (continued)

Skeletal series

Males

Indiv. (Grave) No.	120		121		122		131		134		135		136a		138		139		140	
Hum. 1	332	331	350	358	329	326	338	330	329	328	300	307	347	341	348	343	317	317	356	358
2	51	50	53	51	51	50	54	51	50	50	52	50	53	52.5	54	53	48	48	58.5	57
4	61	61.5	67	67.5	60.5	60	65	66	68	65	64	64	68	66	69	69	62.5	62	77	76
5	24.5	24	23.5	22.5	21	20	25.5	26	26.5	24.5	25	24	26	25	28	27	24	23	28	27.5
6	19	19	18.5	18.5	15.5	18	18	19	17.5	18	18.5	18.5	19.5	18.5	21	21.5	18	18	21	20.5
7	64.5	64	65	63	57.5	56	66	64.5	62	61.5	65.5	63.5	64	65	76	76	64	62.5	75	75
CØ	49	48.5	48	46.5	47	47	47	47	49	48.5	48	47	49.5	49	50	50	46	46	52.5	52
C8	46.5	45	46.5	46	41	41	43	43	42	42	45	42	49	46	47	47	45	42	49.5	49
GI	3.8	4.1	5.0	4.9	4.2	4.3	3.6	3.6	2.5	3.6	4.4	4.4	6.5	4.3	4.3	3.7	6.7	6.6	3.3	3.3
8	147	145	149	144	135	135	138	143	(147)	145	144	139	164	153	152	151	139	137	159	157
6/5·100	77.6	79.2	78.7	82.2	73.8	80.0	70.6	73.1	66.1	73.5	74.0	77.1	75.0	74.0	75.0	79.6	75.0	78.3	75.0	74.5
7/1·100	19.4	19.3	18.6	18.6	17.5	17.2	19.8	19.5	18.8	18.8	21.5	20.7	18.4	19.1	21.8	22.2	20.2	19.7	21.1	21.2
Rad. 1	254	247	257	256	239	238	259	(239)	238	248	231	227	252	—	257	254	253	249	267	267
2	237	233	237	235	223	224	245	(227)	224	231	214	210	237	—	239	236	236	234	248	247
3	42.5	40	43	43	38.5	34	42.5	34	41.5	39	40.5	42	45	—	54	54	42.5	40.5	47.5	45.5
4	17.5	16	17	18	16	17	16	15.5	16	17	17	17	16	—	21	21	16	15	21	19.5
5	11.5	12	12	12.5	11	10.5	12	12	11	11	11	11	13	—	14	14	12	12	14	14
GI	3.7	3.6	3.4	3.7	3.3	3.3	4.0	3.8	2.7	4.0	3.7	3.7	3.9	—	3.7	3.8	4.1	4.0	4.2	4.0
3/2·100	17.9	17.2	18.1	18.3	15.9	15.2	17.3	(19.4)	18.5	16.9	18.9	20.0	18.3	—	22.6	22.9	18.0	17.3	19.2	18.4
5/4·100	65.7	75.0	70.6	69.4	68.8	70.0	75.0	77.4	68.8	64.7	64.7	64.7	81.3	—	66.7	66.7	75.0	80.0	66.7	71.8
Uln. 1	275	269	279	274	259	256	289	(276)	265	—	—	250	277	271	285	280	277	272	(291)	295
2	243	237	241	240	225	225	251	(238)	230	—	—	218	243	241	244	241	243	239	259	260
3	36.5	35	40.5	41	31	30.5	36.5	35	35.5	35.5	39	38	38	37	43	43	40	38	44.5	44
3/2·100	15.0	14.9	16.8	17.1	13.8	13.6	14.5	14.7	15.4	—	—	17.4	15.6	15.4	17.6	17.8	16.5	15.9	17.2	16.9
Sacr. 1	(6) 120		(5) 121		(5) 109		(5) 120		(5) —		(6) 119		(5) 120		(6) 139		(5) 125		(5?) 144	
2	110		108		92		105		—		101		106		115		114		116	
5	110.5		127		108		121		111		106		118		126		118		142	
6	29		22		26		26		—		28		26		32.5		20.5		38.5	
9	85		95		87		96		—		90.5		—		99		93		—	
18	30		17.5		29.5		30		33		32.5		37		42		30		37	
19	53		69		44.5		63		54		59		60		57		51		80	
21	78°		62°		57°5		63°		57°		61°		62°		56°5		55°		53°5	
3/2·100	100.5		117.6		117.4		115.2		—		105.0		111.3		109.6		103.5		122.4	
9/5·100	76.9		74.8		80.6		79.3		—		85.4		—		78.6		78.8		—	
2/1·100	84.6		89.3		84.4		83.7		—		84.9		88.3		83.3		91.2		80.6	
6/2·100	26.4		20.4		28.3		24.8		—		27.7		24.5		28.3		18.0		33.2	
18/19·100	56.6		54.3		66.3		57.1		61.1		55.1		—		73.7		58.8		46.3	
Pelv. 1	208		233		202		226		216		200		230		224		220		236	
2	262		262		250		269		275		257		283		254		261		305	
3	173		174		156		161		—		155		—		(168)		165		180	
5	227		236		222		236		240		200		245		217		195		263	
23	98		98		89		79.5		—		79		106		100		103		(110)	
23a	114		121		109		105		—		102		122		121		125		(133)	
24	119		132		115		133		131		111		130		124		130		136	
26	99		104		94		90		—		86		124		103		105		83.5	
27	76.5		96		85		98		104		94		110		92.5		98		98	
31	48°		58°		49°		(58°)		—		60°		—		67°		72°		(60°)	
1/2·100	79.4		88.9		80.8		81.8		78.5		77.8		81.3		88.2		84.3		77.4	
23/24·100	82.4		74.2		77.4		59.8		—		71.2		81.5		80.6		79.2		80.9	
26/27·100	129.4		108.3		110.6		91.8		—		91.5		112.7		111.4		107.1		85.2	
24/2·100	45.4		50.4		46.0		49.4		47.6		43.2		45.9		48.8		49.8		44.6	
Fem. 1	447	446	457	450	441	446	455	458	445	448	420	421	474	475	487	487	429	431	495	487
2	444	442	453	445	438	443	447	451	441	446	417	419	469	472	482	483	424	427	493	482
8	90	90.5	90	87	78	76.5	90	85	80	80.5	90	80.5	92	92	96	95.5	84.5	84.5	98	96.5
10	146	148	149	148	141	140	151	148	139	137	146	148	152	156	159	158	146	147	167	161
21	79.5	77.5	80	81	76	75	77	76	76	77	77	76	83	82.5	89	87	76.5	77	91	86.5
29	136°	136°	126°	125°	129°5	130°	130°	130°	132°	132°	140°	139°	138°	137°	127°	128°	130°	129°	133°	133°5
6	31	31.5	29	27	25.5	25.5	30	27	25	27	27	26	30	30.5	31	31	28.5	27.5	32	32
7	27	27	29	28	26	26	29	28	26	25.5	25	26	28	28	32	31	26.5	27.5	31	31
GI	5.5	5.5	6.1	6.1	6.0	5.5	5.1	5.1	4.3	4.2	5.2	5.1	6.2	6.2	6.7	6.8	7.7	7.6	5.0	5.4
8/2·100	20.3	20.5	19.9	19.6	17.8	17.2	20.1	18.8	18.1	18.0	19.2	19.2	19.6	20.0	19.9	19.8	19.9	19.8	19.9	20.0
6+7/2·100	13.1	13.2	12.8	12.4	11.8	11.6	13.2	12.2	11.6	11.8	12.5	12.4	12.4	12.4	13.1	12.8	13.0	12.9	12.8	13.1
6/7·100	114.8	116.7	100.0	96.4	98.1	98.1	103.4	96.4	96.2	105.9	108.0	100.0	107.1	108.9	96.9	100.0	107.5	100.0	103.2	103.2
Tib. 1	359	352	364	363	365	355	346	351	344	341	320	321	373	371	385	385	350	352	369	371
1a	367	359	371	374	361	364	349	363	353	354	325	328	377	381	395	398	355	359	379	377
5	76.5	75	76	74	70	69	75	73.5	69	68	69.5	69	84	82.5	82	81	73.5	75	81	81
6	52.5	52	54	55	52	50	54	54	—	(46)	52	49.5	54	49	60	59.5	53.5	51	61	57
8	32	30	29	28.5	26.5	27	32	30	27	27.5	30	29.5	33	33	35	33	32.5	31	32	32
8a	34	35	33	32	29.5	30	35	33	30.5	31	32.5	32	35.5	35	38	38	35	34	37	37
9	22.5	22	22.5	24	20	19.5	22	20	21	20	20	19.5	24.5	23	26.5	26	22	21	24	22.5
9a	24.5	26	24	24.5	21	20	25	21.5	23.5	23	25	22.5	27	25	28	28	26.5	25.5	28	28.5
10b	75.5	75.5	71.5	72	64	63.5	73.5	71	65	65	66.5	66	77.5	76	81.5	81.5	75	74	77.5	75
GI	5.5	4.4	4.0	5.2	5.8	6.0	5.0	5.3	3.8	3.8	5.0	6.0	5.0	4.8	6.5	6.5	7.6	7.6	4.7	4.6
9/8·100	70.3	76.7	77.6	84.2	75.5	72.2	68.8	66.7	77.8	72.7	66.7	66.1	74.2	74.2	75.3	78.8	67.7	67.7	75.0	70.3
10b/1·100	21.0	21.4	19.6	19.8	18.0	17.9	21.2	19.9	18.9	19.0	20.8	20.6	20.8	20.5	21.2	21.2	21.4	21.0	19.9	19.2
9a/8a·100	72.1	74.3	72.7	76.6	71.2	66.7	65.8	65.2	77.0	74.2	76.9	70.3	76.1	71.4	73.7	73.7	75.7	75.0	75.7	77.0
Fibu. 1	—	—	—	366	354	351	—	352	—	346	323	321	378	372	377	382	361	—	386	389
2	16.5	16	—	14	15	15.5	14	17.5	16	14.5	16.5	16.5	17	17.5	16.5	18.5	17.5	16.5	17	16
3	12	11.5	—	10	9	8	13	13	12	11	11	11	11	12	12	12	11.5	12	12	12
4	48	49.5	—	38.5	40	39	46.5	50	44	43	46.5	47.5	51	48	52	52	51	46	48	45
4a	33	(36)	—	32.5	31.5	30	—	34	37	33.5	37.5	39	38.5	38.5	47	45	34.5	35.5	44	42
4c1	—	—	—	28.5	27.5	28	—	26	24	26	27	27	34	34	33	35	26	—	32.5	31
4c2	28	27.5	—	28	26	25.5	30	30	25.5	28	28	29	31	29.5	31.5	31	24.5	25	31	32.5
3/2·100	72.7	71.9	—	71.4	60	51.6	92.9	74.3	75.0	75.9	66.7	66.7	64.7	65.7	64.9	64.9	77.1	72.7	70.6	75.0
4a/1·100	—	—	—	8.9	8.9	8.5	—	9.7	—	9.7	11.6	12.1	10.2	10.3	12.5	11.8	10.1	—	11.4	10.8

Skeletal series

Males

Indiv. (Grave) No.	142		146		147a		153		155		156		157a		157b		158		159	
Hum. 1	321	318	361	358	340	337	360	354	354	349	359	357	372	375	343	340	377	378	340	339
3	49	48.5	57	56	52	51.5	56	55	52.5	55	51.5	50.5	57	57	52	52	54	56	54	52
4	65	62	72	70	—	65	67	65	64.5	63	65	65	70	69	68	67	69.5	70	76	77
5	24	23.5	27	26	23	24	24.5	23.5	23.5	23.5	24	24	26.5	26	24.5	23.5	24.5	26	26	26
6	16	17.5	19	18.5	18	18	18	17	18	19	19	19.5	20.5	19	19	19	18	19	21.5	21
7	63	62.5	71	71	62	62	64.5	64.5	65.5	66.5	64.5	63	69	67	66.5	66	63.5	67	70	68
Cd	47	47	54	52.5	—	49.5	53.0	52.5	49	49.5	48	46.5	53	52	49	48	50	51	50	49
Cp	43	42	49	47	—	45.0	48.5	48.5	45	44.5	45	42.5	—	45	42	42	44	45.5	48	47.5
CI	5.9	6.9	4.2	4.4	3.7	4.0	5.3	5.3	5.7	9.5	6.6	4.3	4.3	3.9	4.0	3.9	3.5	3.3	4.0	4.1
8	136	135	160	158	—	148	155	159	145	148	147	(141)	—	(150)	142	142	145	151	153	147
6/5 · 100	75.0	74.5	70.4	71.2	78.3	75.0	73.5	72.3	76.6	80.9	79.2	77.1	77.4	73.1	77.6	80.9	73.5	73.1	82.7	80.8
7/1 · 100	19.6	19.7	19.7	19.8	18.2	18.4	17.5	18.2	18.5	19.1	18.0	17.6	18.5	17.9	19.4	19.4	16.8	17.7	20.6	20.1
Rad. 1	247	243	271	270	245	243	251	251	254	249	258	261	—	279	273	—	—	280	266	—
2	232	228	251	250	229	227	235	234	238	234	243	244	—	260	254	—	—	262	249	—
3	42	41	46	44.5	43.5	42	42.3	42.5	42.5	43	45	43.5	47	46	42.5	—	—	45.5	46	44
4	19	16	18	17	16.5	16	17	16	16	16.5	18	17	18.4	17.5	17	—	—	18	18	16
5	12	12.5	11.5	11	12	11.5	11	12	12	12	13	12	13	13	12	—	—	13	13	14
CI	4.0	4.0	3.9	4.1	3.5	3.3	3.8	3.9	4.5	4.5	4.3	2.7	4.6	6.3	3.9	—	—	3.6	3.5	3.6
3/2 · 100	18.1	18.0	18.3	17.8	19.0	18.5	18.1	18.2	17.9	18.4	18.5	17.8	—	17.7	16.7	—	16.7	17.4	18.5	—
5/4 · 100	80.0	78.1	63.9	64.7	72.7	71.9	64.7	75.0	75.0	72.7	72.2	70.6	70.1	74.3	70.6	—	70.6	72.2	72.2	87.5
Uln. 1	(270)	262	293	290	270	269	271	270	270	268	262	264	—	—	292	—	—	298	282	277
2	238	228	254	252	237	234	241	236	240	237	246	246	—	268	260	—	—	267	256	251
3	35	33.5	44	42	37	37	38	36.5	39	38.5	39	41.5	43	42	40	—	—	40	46	43
3/2 · 100	14.7	14.7	17.3	16.7	15.6	15.8	15.8	15.5	16.3	16.2	15.9	16.9	—	15.7	—	—	15.4	15.0	18.0	17.1
Sacr. 1	(6) 130		(6) 143		—		(5) 110		(6) 142		(5) 133		(6) 141		—		(5) 130		(5) 117	
2	117		128		—		91		118		125		126		—		118		94	
5	116		109		117		115		130		119		120		—		131		121	
6	23		25		—		24		36		21		30.1		—		21.5		31	
9	90		101		99		101		101		96		104		—		106		97.5	
18	32		40		33		32.5		32		(34)		39		—		34		41.5	
19	56.5		60		69		48		60.5		60		64.6		—		62		66	
22	70°		64°		65°		42°5		61°5		64°		51°		—		63°		51°	
5/2 · 100	99.1		85.2		—		126.4		110.2		95.2		95.2		—		111.0		128.7	
9/5 · 100	77.6		92.7		75.2		87.8		77.7		80.7		86.7		—		80.9		80.6	
2/1 · 100	90.0		89.5		—		82.7		83.1		94.0		89.4		—		90.8		80.3	
6/2 · 100	19.7		19.5		—		26.4		30.5		16.8		23.9		—		18.2		33.0	
18/19 · 100	56.6		66.7		48.5		67.7		52.9		(56.7)		60.5		—		54.8		62.9	
Pelv. 1	216		247		(227)		225		236		233		244		—		239		233	
2	267		290		(253)		256		263		278		—		—		301		302	
3	171		184		—		(157)		(172)		180		—		—		(172)		182	
9	258		226		220		210		219		(241)		—		—		(256)		255	
23	104		117		87		(96)		107		104		—		—		106		91	
23a	123		142		111		103		130		127		—		—		129		119	
24	120		124		123		127		125		134		—		—		142		124	
26	99		100		—		114		98		103		—		—		109		104	
27	81.5		104		96		107		92		96		—		—		108		101	
33	60°		63°		—		60°		60°		62°		—		—		52°		62°	
1/2 · 100	80.9		85.2		(89.7)		87.9		89.7		83.8		—		—		79.4		77.2	
23/24 · 100	86.7		94.4		70.7		(75.6)		85.6		77.6		—		—		74.6		78.2	
26/27 · 100	121.5		103.8		—		106.5		106.5		107.3		—		—		100.9		103.0	
24/2 · 100	44.9		42.8		(48.6)		49.6		47.5		48.2		—		—		47.2		41.1	
Fem. 1	426	—	518	517	449	451	492	490	489	486	475	473	—	509	—	—	500	513	468	482
2	(416)	—	508	516	445	447	490	488	487	484	469	470	—	506	—	—	503	511	466	482
8	78	76	98	99	83.5	85	88	88	82	82.5	85	86.8	99	94.5	—	—	92	89.5	102	99
20	143	142	170	172	149	148	160	155	151	151	(155)	153	—	169	—	—	166	165	171	165
21	—	—	89.5	89	78	79	81	80	81.5	80	84	84	86	86	—	—	(82.5)	85	87	88.5
29	137°	—	137°	137°	131°5	131°	136°	136°5	132°	132°	132°	132°	—	126°	—	—	128°5	129°	121°	135°
6	26	25	31	32	27	27	31.5	30	28	28	29.5	30	30	29	—	—	28	27.5	32	32
7	24	24	32	32	28	28.5	25	26	24.5	25	26	26	34	32.5	—	—	32	30.5	35	34
CI	7.8	7.9	5.5	5.4	4.9	5.0	7.0	6.9	7.5	7.3	6.7	6.4	5.1	5.8	—	—	6.5	5.9	5.4	5.7
8/2 · 100	(18.8)	—	19.3	19.2	18.8	19.0	18.0	18.0	16.8	17.0	18.1	18.4	—	18.7	—	—	18.3	17.5	21.9	20.5
6+7/2 · 100	(12.0)	—	12.4	12.4	12.4	12.4	11.5	11.5	10.8	11.0	11.8	11.9	—	12.2	—	—	11.9	11.4	14.4	13.7
6/7 · 100	108.3	104.2	96.9	100.0	96.4	94.7	126.0	115.4	114.3	112.0	113.5	115.4	88.2	89.2	—	—	87.5	90.2	91.4	94.1
Tib. 1	—	—	409	410	350	351	364	360	368	369	379	377	412	411	—	—	—	406	394	391
1a	—	—	420	421	356	356	369	367	372	370	386	387	421	422	—	—	413	414	400	396
3	—	—	84	83	70	70	76.5	74	73	73	75	76	78	—	—	—	—	77	79.5	83
6	51.5	50	57	55	54	52	55	52	52	52.5	66	55	86.5	85	—	—	58	60	59.5	57.5
8	26.5	26	33	32.5	27.5	28.5	32	31.5	27.5	29	29	28.5	32	32	—	—	32	31	34	39
8a	30	31	41.5	37.5	33	33	35	34	31	29.5	32.5	32	36	36	—	—	33.5	33	40	42
9	20	20	25	25.5	22	22.5	18	18.5	21	21	24	24	24.5	24	—	—	23.5	23	24	25
9a	22.5	21	28	27.5	24	23	20	20	24	22.5	26	26	26	25	—	—	25.5	24.3	28	29.5
10b	67	66	77	76.5	69	70	67	66.5	66.5	67	69.5	71	73.5	74.5	—	—	76.5	76	79.5	80.5
CI	6.5	6.5	7.1	5.7	4.7	5.0	5.5	3.9	7.3	7.5	5.5	5.6	6.4	6.6	—	—	3.9	3.8	5.1	5.2
9/8 · 100	75.5	76.9	75.8	78.5	80.0	78.4	56.3	58.7	76.4	75.0	82.6	84.2	76.6	75.0	—	—	73.4	74.2	70.6	59.0
10b/1 · 100	—	—	18.8	18.7	19.7	19.9	18.4	18.5	18.3	18.2	18.5	18.8	17.8	18.1	—	—	—	18.7	20.2	20.6
9a/8a · 100	75.0	67.7	67.5	73.3	72.7	69.7	57.1	58.8	77.4	76.3	80.0	81.2	72.2	69.4	—	—	76.1	74.2	70.0	70.2
Fibu. 1	—	—	—	405	351	—	364	367	369	376	366	372	—	—	—	—	—	407	384	389
2	16	15	15.5	17	14.5	15.5	16	15	13.5	11	16.5	15.5	15	16	—	—	16	16	16	14.5
3	11	10	12	12	9.5	11.5	11	11	10.5	9	12	12	12	11.5	—	—	12	12	13	13
4	45	43	44.5	47	40	43.5	44	40.5	38.5	33	47	45	45.5	44.5	—	—	46.5	46.5	47	48
4a	35	32.5	35	36	30	34	33	31.5	35	30	38	36	32.5	32	—	—	34.5	35	43	42
4c1	—	—	29.5	30.5	27	—	28	28	27.5	26	29.5	29	—	—	—	—	—	30	30	30
4c2	25	24.5	—	28	26.5	27.5	27.5	28	28	29	27	29	—	—	—	—	26.5	27	30	31
3/2 · 100	68.8	66.7	77.4	70.6	65.5	76.7	68.8	73.3	77.8	81.8	72.7	77.4	80.0	71.9	—	—	75.0	75.0	81.3	89.7
4a/1 · 100	—	—	—	8.5	8.6	—	9.0	8.6	9.5	8.0	10.4	9.7	—	—	—	—	—	8.6	11.2	10.8

Table 24 (continued)

Skeletal series

Males

Indiv. (Grave) No.	160		162		164		165		166a		166b		167b		171		172		175	
Hum. 1	352	346	329	322	—	331	—	334	316	309	331	326	—	339	340	336	354	348	341	344
2	56	56	51	50.5	—	50	—	51	47	46	50	49	53.5	54	53	53	56	54	49.5	49.5
4	66	65	68.5	67.5	—	66	—	64	60	59.5	61	61	66	62	63	63.5	68	65	63	62
5	24	25	27.5	27	—	25	—	23.5	19.5	19	23.5	23	25	25	23	24.5	25	24	24	23
6	19	18.5	20	20	—	18	—	19	15.5	16	17	18	19	18	18.5	19	20.5	20	18.5	18.5
7	65.5	65	69	67	—	69	—	66	57	58	59	57.5	71.5	67.5	62	63.5	71.5	69.5	65	64
C#	51	54	48.5	49	—	48	—	50	43	43	47.5	46	52.5	52	46.5	48	49	50	46	46
C#	48	51.5	48.5	47.5	—	43	—	45	39	39	45	45	46.5	45.5	44	44	47	45	44	42
GI	3.6	4.0	3.3	3.2	—	5.3	—	3.3	3.1	3.2	3.5	3.5	1.2	2.3	4.5	4.1	3.8	3.9	3.3	3.4
8	159	169	(145)	148	—	161	—	151	130	131	147	144	155	152	(144)	145	156	150	142	141
6/5 · 100	79.2	74.0	72.7	74.1	—	69.2	—	80.9	79.5	84.2	72.3	78.3	76.0	72.0	80.4	77.6	82.0	83.3	77.1	80.4
7/1 · 100	18.6	18.8	21.0	20.8	—	20.8	—	19.8	18.0	18.8	17.8	17.7	—	19.9	18.2	18.9	20.2	20.0	19.1	18.6
Rad. 1	261	—	255	253	—	243	252	252	235	—	240	—	257	252	252	249	260	256	254	251
2	245	—	240	239	—	226	236	235	220	—	226	228	241	238	235	232	244	241	238	236
3	44	—	46.5	46	—	45	47	44.5	39	—	40	40	43	43	44	44	43	43	41.5	41.5
4	18	—	19	18.5	—	19	18.5	17.5	16	—	15	16	17	17	16.5	17	16	16	16.5	16.5
5	13	—	12	12	—	13.5	14	12	10	—	11.5	11	12.5	12	11.5	12.5	12.5	12	11	11
GI	2.4	—	2.6	2.5	—	4.1	2.4	2.7	2.5	—	2.7	2.7	3.2	2.9	3.3	3.2	2.7	2.7	2.4	2.5
3/2 · 100	18.0	—	19.4	19.2	—	19.9	19.9	18.9	17.3	—	17.7	17.5	17.8	18.1	18.7	19.0	17.6	17.8	17.4	17.6
5/4 · 100	72.2	—	63.2	64.9	—	71.1	64.9	68.6	62.5	—	76.7	68.8	73.5	70.6	69.7	73.5	78.1	75.0	66.7	66.7
Uln. 1	278	278	277	275	—	264	—	274	255	—	265	—	280	277	278	—	282	279	—	272
2	244	(242)	247	245	—	235	—	240	226	—	234	—	246	245	240	—	245	244	243	237
3	40	38	41.5	37.5	—	39	36.5	37.5	36	—	37.5	—	37	36	38	37.5	38.5	39	40	40.5
3/2 · 100	16.4	(15.7)	16.8	15.3	—	16.6	—	15.6	15.9	—	16.0	—	15.0	14.7	15.8	—	15.7	16.0	16.5	17.1
Sacr. 1	(6) 131		(6) 140		(5) 148		(6) (149)		(7) 128		(5) 109		(7) —		(6) 139		(5) 122		(5) 116	
2	115		109		132		(120)		116		79.5		—		129		106		106	
5	124		114		107		(123)		101		99		—		109		124		115	
6	29		39.5		29		—		24.5		33		—		28		29.5		27	
9	104		97		93		99		76		89.5		—		65.5		101		98	
18	37		36		32.5		(44)		28		33		—		12		36		32	
19	59		62		56		65		50		48.5		—		58		65		52.5	
22	58°		65°		56°		(51°)		72°		67°		—		33.5°		63°		61°	
5/2 · 100	107.8		104.6		81.1		(102.5)		87.1		124.5		—		84.5		117		115.0	
9/5 · 100	83.9		85.1		84.1		(80.5)		75.2		90.4		—		78.4		81.5		78.3	
2/1 · 100	87.8		77.9		91.7		(82.8)		90.6		72.9		—		92.8		86.9		86.2	
6/2 · 100	25.2		36.2		15.2		—		21.1		41.5		—		15.5		27.8		27.0	
18/19 · 100	62.7		58.1		58.0		(67.7)		56.0		68.0		—		66.2		57.1		61.0	
Pelv. 1	220		219		222		231		197		227		212		218		236		223	
2	293		(277)		270		281		231		260		—		259		301		254	
3	171		(217)		184		—		(152)		161		—		177		182		166	
5	229		—		228		238		208		224		—		(210)		259		226	
23	93		—		118		—		99.5		95		—		115		100		98.5	
23(2)	112		—		133		—		118		102		—		135		125		119	
24	138		—		125		121		101		115		—		123		131		133	
26	99		—		119		—		90		86		—		98		111		103	
27	105		—		98.5		86		85		76		—		98		101		98	
33	72°		—		68°		—		69°		51°		—		61°		61°		63°	
1/2 · 100	75.1		(79.1)		82.2		82.2		85.3		87.3		—		84.2		78.4		87.8	
23/24 · 100	69.4		—		94.4		—		98.5		83.1		—		93.5		82.4		74.1	
26/27 · 100	94.3		—		115.7		—		109.4		99.6		—		100.0		109.9		105.1	
24/2 · 100	46.7		—		46.3		43.4		43.7		44.2		—		47.5		43.5		52.4	
Fem. 1	—	465	447	448	479	476	460	465	(422)	420	438	443	454	461	465	460	489	487	466	465
2	—	461	446	445	476	474	459	465	(420)	419	435	440	450	458	460	457	488	482	460	460
8	92	91	91	91	94	89	97	97	71.5	71.5	85.5	85	91	91	84	84	92.5	94.5	79	79
20	—	161	159	148	151	150	159	158	—	140	144	140	157	156	149	151	162	159	148	148
21	82	82	77	77.5	80.5	80	85	83.5	73	74	79	79	85	82	78	79	87.5	86	82	81
29	—	130°.5	123°.5	128°	146°	143°	123°	125°	139°	134°	133°	131°	130°	130°	136°	135°	139°	136°	143°	139°
6	30	29.5	30	30	32	30	31.5	30	25	23	26.5	26	29.5	30.5	28	26.5	31	32	26.5	26
7	29	30	28.5	29	26	26	30	32	21.5	24	29	27	29.5	28	27	28.5	28	28.5	24	25
GI	5.7	6.7	4.4	6.7	6.4	5.8	5.5	4.1	3.1	3.2	5.9	5.8	5.2	4.5	5.9	5.9	4.2	4.1	5.1	4.4
8/2 · 100	—	19.7	20.4	20.4	19.7	18.8	21.1	20.9	(17.0)	17.5	19.3	18.6	20.0	19.9	18.3	18.4	19.1	19.0	17.2	17.2
6+7/2 · 100	—	12.9	13.1	13.3	12.2	11.8	13.4	13.3	(11.1)	11.2	12.8	12.1	13.1	12.8	12.0	12.0	12.3	12.6	11.0	11.1
6/7 · 100	103.4	98.3	105.3	103.4	123.1	115.4	105.0	93.7	116.3	95.8	91.4	96.3	100.0	108.9	103.7	93.0	110.7	112.3	110.4	104.0
Tib. 1	362	359	366	365	371	372	386	381	327	339	343	343	371	370	356	356	402	392	376	375
1a	371	368	377	374	380	382	391	389	332	341	347	350	381	380	364	364	411	402	382	386
5	78	76.5	73	71.5	75	75	82	77.5	64	66	74	74	79.5	79	72	74.5	82	81.5	75	76
6	55.5	53.5	52	51	54	54	57	56	47.5	47	52	51	53	54	55	53	55	55.5	54	53
8	30	31	30	29	32.5	31	34	33	22	25.5	30	29.5	31	31	27	27	32	32	26	26
8a	37	36.5	36.5	35	35	34	37.5	37	26.5	30	34	33	39	40	31	31.5	38	35.5	31.5	31
9	23	24	22.5	22	24	24.5	25.5	24	17	20	20	19.5	22	22	22	21.5	25	24	22	21
9a	26.5	26	25.5	26	27	27	28	26	21.5	22	23	22	27.5	27	24	24	29	26	24	24
10b	75.5	76	71	72	78	79	79	77	61.5	56.5	70	70	73.5	73.5	67	67.5	80.5	77	69.5	69
GI	5.2	5.0	3.5	3.3	6.2	6.1	3.2	3.4	3.4	2.8	5.6	3.1	3.9	3.8	4.5	4.3	4.7	2.7	4.2	4.0
9/8 · 100	76.7	77.4	75.0	75.9	73.8	79.0	75.0	72.7	80.4	78.4	66.7	66.1	71.0	71.0	81.5	79.6	78.1	75.0	84.6	80.8
10b/1 · 100	20.9	21.2	19.9	19.7	21.0	20.2	20.7	20.2	18.8	19.9	20.4	20.4	19.8	19.9	18.7	19.0	20.0	19.6	18.2	18.4
9a/8a · 100	71.6	71.2	69.9	74.3	77.1	79.4	74.7	70.3	81.1	73.3	67.6	66.7	70.5	67.5	77.4	76.2	76.3	73.2	76.2	77.4
Fib. 1	369	368	—	—	371	372	—	—	—	338	—	—	—	—	—	—	—	388	366	371
2	17.5	15	14.5	13	16.5	16.5	18.5	18.5	15.0	15.5	15	13	15	14	13	12.5	16.5	15.5	14	14
3	15	15	11.5	11.5	13	14	13	12.5	9	10	11.5	12	13	12	10.5	12	13	11	9.5	9.5
4	49	45	42	41	49	49	50.5	50.5	36	40	41	41	43.5	43	40	40	47.5	43.5	38	38
4a	39	37.5	38	35	36	36	37	40.5	25.5	29	33	29	32.5	39.5	31.3	30	42.5	42.5	30	32
4(1)	29	28	—	—	28	29	—	—	—	23.6	26	—	—	—	—	—	—	29	27	26.5
4(2)	28.5	28.5	26	25.5	25	31	31	33	24.0	24.5	25.5	—	27	27.5	24.5	25	29	30.5	28	25.5
3/2 · 100	74.3	86.7	79.3	88.5	78.8	84.8	70.3	75.8	57.2	74.1	76.7	92.3	86.8	85.7	80.8	96.0	78.8	71.0	67.9	67.9
4a/1 · 100	10.6	10.2	—	—	9.7	10.2	—	—	—	8.7	—	—	—	—	—	—	—	8.8	8.2	8.6

Skeletal series

Males

Index (Grave) No.	178		181		182		185		189		190		191		194		195a		200a	
Hum. 1	361	356	333	327	348	341	371	362	342	345	310	303	327	323	361	356	316	308	362	356
2	53	52	53	51.5	53	51	56	54	52	52	50	48.5	48.5	48.5	53	52	49	48	58	58
4	63	60	67.5	66	64.5	63	65	68	67	65	64	64	64	65	62.5	62	66.5	65	66	65
5	24	24	23.5	21	26	24.5	24	22.5	25	24	23	22	24.5	23.5	25	24	23	23	24.5	24.5
6	17	16	19	18	19	19	18	18	20	21	17	17	18	18	19	19	18	17.5	21	21
7	65	62	67.5	63.5	67.5	66.5	65	63.5	70.5	68.5	60	61	65	65	75	68	63.5	62	71.5	70
C8	48	49	51.5	49.5	51	49	53.5	52	46	46.5	45	45	46	45.5	51	51	45.5	44.5	52.5	52
C8	43	(41)	45	44	47.5	45	48	45	46	44	45	43	45	44	49	48	43	41.5	50	48
CI	5.1	5.5	4.6	4.5	5.7	5.8	5.5	5.7	5.5	5.7	5.9	5.5	5.5	5.4	4.6	4.5	4.9	4.5	4.5	5.6
8	144	(142)	(148)	143	152	148	158	152	142	141	138	138	142	140	157	157	137	136	156	154
6/5 : 100	70.8	66.7	80.9	85.7	73.1	77.6	75.0	80.0	80.0	87.5	73.9	77.3	73.5	76.6	76.0	79.2	78.3	76.1	85.7	83.7
7/1 : 100	18.0	17.5	20.3	19.4	19.4	19.5	17.4	17.6	20.6	20.0	19.4	20.1	19.9	20.1	19.4	19.1	20.1	20.1	19.8	19.8
Rad. 1	256	262	250	248	260	253	265	262	270	264	228	224	253	245	274	274	238	234	273	270
2	249	246	234	232	241	234	246	244	255	248	219	207	237	229	257	256	222	218	255	253
3	41	38.5	46.5	43	43	42.5	42.5	42.5	46.5	46	42	41	43	42.5	50	50	43.5	42.5	46	44
4	15	14	19	16	17.5	17	18	17	19	19	16	15.5	17	17	18.5	18.0	17	17	19	17.5
5	11	11	12	13	12	12	12	11	12.5	12.5	10	10.5	11	11	14	14	12	12	13	12
CI	3.6	3.9	3.7	3.8	5.0	5.1	3.8	3.5	4.1	4.0	3.0	3.1	2.8	3.0	3.0	2.9	3.7	3.8	3.1	2.9
3/2 : 100	16.5	15.7	19.9	18.5	17.8	18.2	17.3	17.4	18.2	18.5	19.2	19.8	18.1	18.6	19.5	19.5	19.6	19.5	18	17.4
5/4 : 100	73.3	78.6	63.2	81.3	68.6	70.6	66.7	64.7	65.8	65.8	62.5	67.7	64.7	64.7	75.7	77.8	70.6	70.6	68.4	68.6
Uln. 1	290	286	277	274	280	273	—	279	294	287	252	246	—	(270)	296	290	258	255	293	—
2	252	250	241	240	242	237	250	248	260	253	219	214	—	237	256	251	231	230	258	—
3	41	39.5	40	37.5	40	40	38	37.5	37.5	38	37.5	36	—	37	43	42.5	37	37.5	35.5	—
3/2 : 100	16.3	15.8	16.6	15.6	16.5	16.9	15.2	15.1	14.4	15.0	17.1	16.8	—	15.6	16.8	16.9	16.0	16.3	13.8	—
Sacr. 1	(6) 144		(5) 108		(5) 110		(5) 110		(5) 114		(5) 124		(6) 148		(6) 131		(6) 138		(5) 126	
2	123		95		92		91		89.5		116		127		122		120		103	
3	120		117		115		123		108		113		127		112		108		125	
6	36		22		27		27		32		21		30		20		29.5		37.5	
5	99.5		95		103		99		98		84		95		88		82.5		107	
18	38		39.5		37		(35)		34		35		35		33		30		38	
19	57		66		62		51		49		56		56.5		60.5		53.5		58.5	
22	57°		62°		55°		64°		46.5°		64°		61°		70°		63.5°		91°	
3/2 : 100	97.6		123.2		125.0		135.2		120.7		97.4		100.0		91.8		90.0		121.4	
5/3 : 100	82.9		81.2		89.6		80.5		90.7		74.3		74.8		78.6		76.4		85.6	
2/1 : 100	85.4		88.0		83.6		82.7		78.5		93.5		85.8		93.1		87.0		81.7	
6/2 : 100	29.3		23.2		29.3		29.7		35.8		18.1		23.6		16.4		24.6		36.4	
18/19 : 100	66.7		59.8		59.7		(68.6)		69.4		62.5		61.9		54.5		56.1		65.0	
Pelv. 1	234		217		220		226		226		206		230		233		202		244	
2	274		280		275		291		280		243		275		248		259		293	
3	189		181		175		(168)		170		164		193		185		(163)		194	
5	(243)		240		227		248		230		200		214		223		209		257	
23	111		101		94		100		97		104		121		120		98		102	
23a	131		123		113		113		111		119		137		141		118		128	
24	129		118		130		137		124		117		129		126		115		143	
26	98		100		105		111		87		110		101		113		93		117	
27	93		89		92		104		98		89		106		107		90		120	
33	62°		59°		55°		62°		75°		58°		73°		65°		60°		70°	
1/2 : 100	85.4		77.5		80.0		77.7		80.7		84.8		83.6		94.0		78.0		83.3	
23/24 : 100	86.0		85.6		72.3		73.0		78.2		88.9		93.8		95.2		85.2		71.3	
26/27 : 100	105.4		112.4		114.1		106.7		88.8		123.6		95.3		105.6		103.3		97.5	
24/2 : 100	47.1		42.1		47.3		47.1		44.3		48.1		46.9		50.8		44.4		48.8	
Fem. 1	484	488	463	465	470	468	(458)	465	470	474	443	441	478	477	490	484	441	437	500	(479)
2	481	486	458	464	465	464	(460)	463	466	471	440	440	471	472	485	476	438	435	492	(466)
8	91.5	91.5	91	91	92	92	(93.5)	89.0	94	92	82.5	81	86	88	90	90.5	83	83	97.5	96.5
20	152	153	135	155	157	155	168	160	158	152	149	148	154	151	160	157	148	145	160	(155)
21	82	82	82	82	83	81.5	84	82	82	81.5	79.5	79	84	83	83.5	82.5	78	80	97	84.5
29	131°	131°	131.5°	132°	135°	134°	130°	130°	133.5°	134°	132°	131.5°	140°	140°	132°	131°	131°	131°	128°	123°
6	31	32	31.5	30.5	31	30	27	27	31.5	32	25.5	25	29	29	28	28.5	27	26	32	29
7	28	28	28	28	28	28.5	(32.5)	28	28	27	26	26.5	26.5	27.5	29	29	27.5	28	30	33
CI	6.4	6.5	5.6	4.2	6.0	5.8	5.4	5.3	7.0	6.8	5.7	5.9	6.5	4.6	5.2	5.2	6.1	6.1	4.8	4.6
8/2 : 100	19.0	18.8	19.9	19.6	19.8	19.8	(20.3)	19.2	20.2	19.5	18.8	18.4	18.2	18.6	18.6	19.0	18.9	19.1	19.8	(20.7)
6+7/2 : 100	12.3	12.3	13.0	12.6	12.7	12.6	(12.9)	11.9	12.8	12.5	11.7	11.7	11.7	12.0	11.8	12.1	12.4	12.4	12.6	13.3
6/7 : 100	110.7	114.3	112.5	108.9	110.7	105.3	(83.1)	96.4	112.5	118.5	98.1	94.3	109.4	105.5	96.6	98.3	98.2	92.9	106.7	87.9
Tib. 1	389	389	365	361	377	378	383	380	376	375	349	344	377	374	393	392	345	—	402	401
1a	396	398	369	369	387	388	395	394	382	380	354	354	378	377	398	399	350	—	411	406
5	76	77	74	76	79.5	(77.5)	79	78	78	80	76.5	76.5	76.5	77	79.5	78	74	73	80.5	77
6	53	51	52.5	53	59	55.5	56	55	57	55	—	47.5	59.5	58	57	53.5	54	—	53	54
8	31.5	32	29	29	31	32	28	28.5	32	32	30.5	29	33	32	32	32	29	28.5	36	34
8a	34.5	37	33	33	36	37	32.5	32	39	39	33	33	39	39	37.5	36	32.5	32	39	37.5
9	23.5	22.5	23.5	24	23	23	21	21.5	24	23.5	20	20.5	24	24	26	26	21	22	24	23
9a	25	25	25.5	25.5	26	26	26.5	24	28	28	24	25	25.5	27	30.5	31	23.5	24	25	24.5
10b	70.5	70.5	74	72.5	75	73.5	71	69	74	76.5	72.5	70.5	75	75	83	81.5	68	70	78	73
CI	6.8	6.6	4.8	5.2	7.0	7.0	4.2	4.1	6.5	6.6	2.7	3.2	5.5	5.6	6.1	6.0	4.7	4.5	4.0	3.3
9/8 : 100	74.6	70.3	81.0	82.8	74.2	71.9	75.0	75.4	75.0	73.4	65.6	70.7	72.7	75.0	81.3	81.3	72.4	77.2	66.7	67.6
10b/1 : 100	18.1	18.1	20.3	20.1	19.9	19.4	18.5	18.2	19.7	20.4	20.8	20.5	19.9	20.1	21.1	20.8	19.8	—	19.4	18.2
9a/8a : 100	72.5	67.6	77.3	77.3	72.2	70.3	81.5	75.0	71.8	71.8	72.7	75.8	65.4	69.2	81.3	86.1	72.3	75.0	64.1	65.3
Fibu. 1	379	375	(357)	358	375	377	373	—	371	375	—	—	378	378	390	—	341	—	400	397
2	17	15	14.5	16.5	13.5	12.5	14	13	16	17	15	15	17	16	17	16	12	12.5	15.5	15.5
3	12.5	10	9	9	10.5	10	10	11	13	14	11	11	11	12.5	10.5	10.5	10	10	12	12
4	48	41.5	40	41	40.5	37.5	40.5	39	47.5	48	43	43	49	47	45	43	36.5	37	43	45.5
4a	33	34	29	27.5	33.5	33	30.5	35.0	33	36	36.5	35	39.5	39	38.5	37	31.5	31	34	30
4.1	—	27.5	28	28	26.5	27	—	—	27	27	26	—	30.5	31	24	—	27.5	28	31	29.5
4.2	26.5	27	28.5	29	29	26	28	26	27	28	(26)	26.5	29	29	31	31	25	27	29	30
3/2 : 100	73.5	66.7	62.1	54.5	77.8	80.0	71.4	84.6	81.3	82.4	73.3	73.3	64.7	78.1	61.8	65.6	83.3	80.0	77.4	77.4
4a/1 : 100	8.7	9.1	(8.1)	7.7	8.9	8.8	9.2	—	8.9	9.6	—	—	10.4	10.3	9.9	(9.5)	9.2	—	8.5	7.6

III:11

Table 24 (continued)

Skeletal series

Males

Index/(Grave) No.	201		202		205b		211		213		227	
Hum. 1	336	330	364	359	—	—	327	325	327	320	336	332
3	49	48	51	51	—	—	51	50.5	51	50	(52)	52.5
4	65	65	66	65.5	67	56	67	63	61	61	69	67
5	23.5	22.5	25	26	—	24	24	23	24	23	20	25
6	19	18	18	18	—	20	17	18	18	17.5	19	19
7	62	60	65	67.5	—	70.5	63.5	61	61	61	67.5	66.5
C#	46	46	49	48	—	—	45	48	44.5	45.5	48	47
C8	41	42	44	45	—	—	42.5	42	42	41	(44)	44
OI	4.8	4.5	4.0	3.0	—	3.3	5.1	4.8	3.5	3.6	6.5	6.1
8	136	135	146	144	—	—	140	140	137	135	(145)	(144)
6/5 × 100	80.0	80	72.0	69.2	—	83.3	70.8	78.1	75.0	76.1	73.1	76.0
7/1 × 100	18.5	18.2	17.9	18.8	—	—	19.4	18.8	18.7	19.1	19	18.9
Rad. 1	244	245	270	268	—	—	243	240	242	237	251	264
2	228	230	255	251	—	—	227	226	226	222	249	246
3	41.5	38	43.5	43.5	—	—	43.5	44	41.5	40	42	43
4	15	14	17.5	18	—	—	18	17.5	17.5	18	15	15
5	12	11	11.5	12	—	—	11	11	12	12	12	12.5
OI	3.0	3.1	2.7	2.8	—	—	3.6	3.9	3.1	3.8	4.3	4.2
3/2 × 100	18.2	16.5	17.1	17.3	—	—	19.2	19.5	18.4	18	17.2	17.5
5/4 × 100	80.0	78.6	65.7	66.7	—	—	61.1	62.9	68.6	66.7	80.0	83.3
Uln. 1	263	265	288	284	—	283	270	266	264	259	289	286
2	232	233	258	257	—	248	236	233	231	227	253	254
3	36	34	39	38.5	—	39	40	40	36.5	36.5	38.5	38
3/2 × 100	15.5	14.6	15.1	15.0	—	15.7	16.9	17.2	15.8	16.1	15.2	15.0
Sacr. 1	(6) 131 (98)		(5) 130		(6) —		(5) 110		(6) 120 (154)		(5) 118	
2	119 (89)		113		—		88.5		101 (136)		107	
5	111		131		111		116		117		116	
6	15		30		—		31		26		21	
9	87.5		100		94		92		100		101	
18	33		33		(34)		33		37		35	
19	53.5		52		62		56		66		51	
22	73° (73°)		53°		(75°)		56.5		81°		57.5	
5/2 × 100	93.3 (124.7)		115.9		—		137.3		115.8 (86.0)		108.4	
9/5 × 100	78.8		76.3		84.7		79.3		85.5		87.1	
2/1 × 100	90.8 (93.7)		86.9		—		76.8		84.2 (88.3)		90.7	
6/2 × 100	12.6 (16.9)		26.5		—		36.7		25.7 (19.1)		19.6	
18/19 × 100	61.7		63.5		(54.8)		58.9		56.1		68.6	
Pelv. 1	217		238		227		216		216		219	
2	266		291		263		262		267		289	
3	172		178		182		158		—		170	
5	213		265		191		232		(207)		245	
23	98		106		96		81		—		96.5	
23:2	116		126		107		101		—		118	
24	120		135		122		123		141		127	
26	125		96		—		103		—		113	
27	87		94		110		101		129		91	
33	46°		43°		69°		62°		—		53°	
1/2 × 100	96.0		81.8		84.8		82.4		80.9		75.8	
23/24 × 100	81.7		78.5		79.0		65.9		—		76.0	
26/27 × 100	143.7		102.1		—		102.0		—		124.2	
24/2 × 100	45.1		46.4		46.7		46.9		52.8		43.9	
Fem. 1	449	469	502	509	475	473	458	461	455	455	483	485
2	446	447	497	506	467	469	455	461	454	453	481	482
8	92	92.5	93	93.5	94	95	90	87	84	87	96	96
20	150	145	160	161	167	(160)	149	147	146	146	151	150
21	78	77	85	84.5	84	82	78	80	77	78	81	81
29	123°	122°	135°5	134°5	135°	136°	135°	136°	130°	130°	134°	132°
6	31	30	33	33.5	31.5	32	31	29	26.5	26.5	33	32.5
7	31	32	27.5	27	28	27.5	29.5	29	28.5	30.5	29.5	30
OI	6.6	6.3	5.6	5.7	4.5	5.0	6.2	6.1	4.4	4.9	6.5	6.5
8/2 × 100	20.6	20.7	18.7	18.5	20.1	20.3	20.5	19.7	18.5	19.2	20	19.9
6+7/2 × 100	13.9	13.9	12.2	12.0	13.0	13.0	13.8	13.2	12.1	12.6	13.0	13.0
6/7 × 100	100.0	93.8	120.0	124.1	112.5	120.0	105.1	100.0	93.0	86.9	111.9	108.3
Tib. 1	380	378	406	405	391	—	359	355	359	356	387	394
1a	384	389	417	421	394	—	366	364	365	362	395	402
3	74	74	79	80	77	77	78	78	72	74	77	76.5
4	58	51	56	55.5	54	—	58	53	48.5	48	55	52.5
8	32.5	31.5	35	34	28.5	28.5	30	28	29.5	29	31	31.5
8a	36	36	38.5	40	33	33	34	32.5	31.3	32.5	33.6	33.5
9	21.5	20	24	25	24	23	21	21	22	21	24.6	28
9a	23	21.5	27	27	25	25	22	22	24.5	24	27	26
10b	73	72.5	77	79	71.5	71	72.5	72.3	71	69	73	72
OI	5.3	5.7	6.0	5.8	3.9	4.1	5	4.7	4.6	4.5	5.7	5.5
9/8 × 100	66.2	63.5	72.7	73.5	84.2	80.7	70.0	75.0	74.6	72.4	79.0	76.2
10b/1 × 100	19.2	19.2	19.0	19.4	18.2	—	20.2	20.4	19.8	19.4	18.9	18.3
9a/8a × 100	63.9	59.7	70.1	67.5	84.8	81.8	64.7	67.7	77.8	73.8	80.6	77.6
Fibu. 1	369	366	402	403	379	388	350	348	356	357	—	388
2	16	16.5	16	17	15	15	15	14	16	15	14.5	14
3	10.5	9.5	11	13	11	11	10.5	10.5	18	11.5	12	12
4	43	43	47	48	44	44	43	41.5	46.5	43	42.5	42.5
4a	32.5	31	35	34	33	36.5	35.5	35.5	38	37	31	32.5
4(1)	25.5	25	28	(28)	27	25	26.5	29	28	27	—	26
4(2)	26.5	26.5	29	29.5	30.5	32	32	32	28	28	29	27
3/2 × 100	65.6	57.6	81.3	76.4	73.3	73.3	75	75	87.5	76.7	86.8	85.7
4a/1 × 100	8.8	8.5	8.3	8.4	8.7	9.5	10.1	10.2	10.7	10.4	—	8.5

SKELETAL MEASUREMENTS AND INDICES

FEMALES

Individ. (Grave) No.	1		8		11		15		17		19		20		21		22		23	
Hum. 1	(317)	336	308	303	268	—	312	310	337	329	339	334	—	—	321	318	320	318	336	334
2	49	50	45	45.5	43	43	47	45	47.5	46	—	46.5	—	—	47	47	49	46.3	47	46.5
4	65	61	56	55	52.5	—	61	62	57	57	62.5	61	—	—	57	55	61	60	63	62
5	22	22	22	22.5	21	—	22	21.5	21	21	22.5	22.5	21	21	23	22	20	20	23	22
6	17	17	18.5	15	16	—	18	19	16	16	18	17	15	15.5	14.5	15	18	18	16.5	18.5
7	60	61.5	52	54	42.5	—	60	59	56.5	54	60.5	60.5	55	55	57	55	61	61	62.5	61
Cφ	44	46	41	41	35.5	35	42	41.5	46	45	44.5	44	—	—	45.5	44	45.5	45.5	43.5	43
Cθ	41	40	37	37	37.5	37	41	40	41.5	41	40	40	—	—	40	38.5	41.5	40	41	40
GI	4.7	4.6	3.6	3.9	2.7	2.6	3.9	3.2	4.7	4.5	2.6	2.4	2.2	2.2	3.5	3.8	3.9	3.3	3.9	3.8
8	136	137	122	122	116	117	100	128	136	135	(135)	(131)	—	—	132	132	139	133	136	134
6/5 · 100	77.3	77.3	85.9	66.7	63.6	—	81.8	88.4	76.2	73.4	80.0	75.6	71.4	73.8	63.0	65.6	69.2	69.2	80.4	84.1
7/1 · 100	(21.5)	18.4	16.9	17.8	19.x	—	19.2	19.0	16.8	16.4	17.8	18.2	—	—	17.8	18.2	18.8	19.2	18.6	18.3
Rad. 1	236	237	218	214	198	(195)	235	230	245	244	—	—	—	—	248	247	241	—	249	244
2	222	221	204	200	186	(184)	221	217	230	230	—	—	—	—	233	231	227	—	236	228
3	38.6	38.0	34.5	33.5	33	32	38	36	35.5	35	38	38	33	33	34	32	41.5	—	39	39.5
4	15	13	14	13	15.5	13.5	17	16	14	14	16	15	14	14.5	14	14	19	—	17.0	16.5
5	11	11	10	9.5	9	9.5	10	9.5	10	10	11	11	10	10	10	10	11.9	—	11.5	11.5
GI	3.0	3.0	2.5	2.4	1.9	2.1	3.0	3.1	3.5	3.3	2.0	2.0	1.6	1.5	2.8	2.3	2.4	—	2.1	2.1
5/2 · 100	17.1	16.2	16.9	16.8	17.7	(17.4)	17.2	16.6	15.4	15.2	—	—	—	—	14.0	13.9	18.3	—	16.7	17.3
5/4 · 100	73.3	84.6	71.4	73.1	58.1	54.3	58.8	59.4	71.4	71.4	68.8	73.3	71.4	69.0	71.4	71.4	60.5	—	67.6	69.7
Uln. 1	248	—	227	—	223	—	255	253	266	260	—	—	—	—	271	270	—	259	268	—
2	224	—	200	—	190	—	226	220	233	231	—	—	—	—	239	239	—	227	240	233
3	35.5	—	30.5	31	31	31	35	35.5	36	36	37	36.5	—	—	31	30	—	37.5	34.5	34
3/2 · 100	15.8	—	14.7	—	16.3	—	15.5	16.1	15.5	15.6	—	—	—	—	13.0	12.6	—	16.5	14.4	14.6
Sacr. 1	[5] 102		[5] 120		[5] —		[6] 137		[5] 126		[7] —		[7] —		[6] 141		[7] —		[6] 119	
2	87		107		—		120		108		—		—		128		—		82	
5	106		117		99.5		114		119		—		—		120		—		114	
6	35.5		26.2		—		28		28.5		—		—		25		—		33	
9	88		85		82.5		98		95		—		—		94		—		88	
18	31		28		30		33.5		33.5		30		—		(35)		—		32	
19	52		49		52		56		53		(46)		—		62		—		58	
22	57°		58°		73°		56°		61°		—		—		63°		—		64°	
5/2 · 100	124.1		109.3		—		95.0		110.2		—		—		93.8		—		139.0	
9/5 · 100	78.7		72.6		82.9		86.0		79.8		—		—		78.3		—		77.2	
2/1 · 100	84.5		89.2		—		87.6		85.7		—		—		90.8		—		74.5	
6/2 · 100	29.3		24.5		—		23.3		26.4		—		—		20.3		—		40.2	
18/19 · 100	59.6		57.1		57.7		59.8		63.2		65.2		—		56.5		—		55.2	
Pelv. 1	208		x) 199		184		208		207		209		—		213		197		210	
2	233		x) 250		255		259		275		—		—		281		—		(265)	
3	172		162		173		—		—		—		—		184		—		(166)	
5	200		(205)		—		223		229		—		—		230		—		(228)	
23	112		103		98		—		—		—		—		120		—		92	
23cf	128		125		114		—		—		—		—		133		—		107	
24	114		128		119		[illegible]		130		—		—		137		—		129	
26	108		100		—		—		—		—		—		128		—		115	
27	112		108		106		[illegible]		117		—		—		117		—		99	
33	78°		62°		78°		—		—		—		—		66°		—		57°	
1/2 · 100	89.3		79.6		72.2		80.3		75.3		—		—		75.8		—		(79.2)	
23/24 · 100	98.2		82.4		82.4		—		—		—		—		87.6		—		71.3	
26/27 · 100	95.8		92.6		—		—		—		—		—		109.4		—		116.2	
24/2 · 100	48.9		50.0		46.7		36.6		49.3		—		—		48.8		—		48.7	
Fem. 1	468	464	416	419	301	366	419	421	467	464	459	459	—	411	447	—	(413)	430	457	454
2	467	463	409	415	360	365	415	419	457	455	450	452	—	410	436	—	402	429	453	449
8	82	82	72.5	75.5	72	71	81.5	82	79	78.5	81	82.5	82	82	81	—	82	86	86	85.5
20	137	139	131	133	118	118	130	129	140	134	140	140	—	(150)	137	—	—	139	134	136
21	75	73	70	71.5	68	68	71	70	77	76	80	—	—	77	74	—	—	70	75	75
29	134°	133.5°	135°	135°	128°	127°	131°	130°	140°	140°	133°	134°	127°	142°	135°	—	—	126°	128°	128°
6	26	27	22	23	23	23	26	26	26.5	26	26.5	27	25.5	27	28	—	27	28	30	29
7	26	26	24	25	24	25	27	27	24	24	27	26	27	28	26	—	26	27	27	27
GI	6.0	6.0	4.1	3.9	4.1	4.1	4.2	4.3	(7.3)	(4.5)	4.7	4.4	1.9	2.9	6.0	—	1.4	2.5	2.0	1.8
8/2 · 100	17.6	17.7	17.7	17.7	20.0	20.0	19.6	19.6	17.3	17.3	18.0	18.3	—	20.0	19.0	—	(20.4)	20.0	19.0	19.0
6+7/2 · 100	11.1	11.2	11.2	11.6	13.1	13.2	12.8	12.6	11.1	10.9	11.9	11.7	—	13.4	12.4	—	(13.2)	12.8	12.6	12.5
6/7 · 100	100.0	103.8	91.7	92.0	95.8	92.0	96.2	96.3	110.4	108.3	98.1	103.8	94.4	96.4	107.7	—	103.8	103.7	111.1	107.4
Tib. 1	355	352	324	318	289	286	333	329	378	374	388	386	333	—	361	361	—	339	372	372
1a	362	360	329	328	293	293	336	335	384	381	391	390	338	—	365	365	—	347	376	379
5	70	70.5	65	66	63	62	67	66.5	70	72	72	72	74	76	69	70	—	70	71	69.5
6	60	59	48	48.5	43	43	48	46	49.5	50	57	(50)	53	50	50	50	—	47	48	46
8	27	26	27	29	25	26	25	26	28	29	30.5	30	27.5	28.5	29	28	30	30.5	29.5	30
8a	32	33.5	31	32	29	30	30	31	30	32	33	33	32	32	31	31	32	34	32.5	33
9	20.5	20.5	18.5	19.5	18	18	20	19	21	21	23	22	18	—	20	20	22	21.5	22	21.5
9a	22	23	20	21.5	19	20	22	21	23.5	23	26	25.5	22.5	22	22	22	24	24	24.5	24
10b	63.5	62.5	61	63	57.5	58	64.5	61.5	68	68	79	76	70	70	68	67.5	72	74.0	70	69
GI	4.5	4.3	3.4	3.4	3.2	2.3	4.7	4.3	4.3	4.6	1.8	2.2	1.7	1.8	3.5	3.5	1.5	2.3	1.8	1.8
9/8 · 100	75.9	71.2	68.5	65.8	72.0	69.2	80.0	73.1	75.0	72.4	75.4	73.3	65.5	—	69.0	71.4	73.3	70.5	74.6	71.7
10b/1 · 100	17.9	17.8	18.8	19.8	19.9	20.3	19.4	19.3	18.0	18.2	20.4	19.6	21.0	—	18.8	18.7	—	21.8	18.8	18.5
9a/8a · 100	68.8	68.3	64.5	67.2	65.5	66.7	73.3	67.7	78.3	71.9	78.8	77.2	70.3	68.8	66.7	71.0	75.0	70.6	75.4	72.7
Fib. 1	355	352	317	—	287	287	—	316	367	364	—	—	—	—	—	360	—	—	372	369
2	14	14	13	13	12.5	12	15.5	15	15	16	17	17	14	—	13.5	13	16	17	16	16.5
3	11	9	10.5	10	10	10	9.5	9.0	10	10	13	11	11	—	9.5	10	14	14	10	11
4	40	36.5	40	38	36	37	42	40.5	41.5	42	53.5	48	41	—	38.5	39.5	49	51	48	48
4a	30	29	32	32	28	28	—	—	32.5	32.5	36	35	32	—	31	31.5	—	38	30	30
4b	24	25	25	25	23	23	—	21	28	27	—	—	27.5	—	—	29	—	—	—	25
4c	23	(23)	21.5	20.5	22	22	(22)	22.5	24	24	28	25	24	—	24	24	25.5	25	25	25
3/2 · 100	78.6	64.3	80.8	76.9	80.0	83.3	61.3	60.0	66.7	62.5	76.5	64.7	78.6	—	70.4	76.9	87.5	82.4	62.5	66.7
4a/1 · 100	8.5	8.2	10.1	—	9.8	9.8	—	—	8.8	8.9	—	—	—	—	—	8.8	—	—	8.1	8.1

x) Without crista iliaca

Table 24 (continued)

Skeletal series

Females

Indiv. (Grave) No.	24		25a		30		31		32		34		35		37		39		40	
Hum. 1	305	305	320	—	321	311	—	310	307	296	321	317	266	260	312	303	319	314	299	302
2	44	44	47	—	44	41.5	—	47	45	45	45	45.5	41	40	—	—	46.5	45.0	45	45
4	58	57	56	52.5	55	—	57	58	56	55	57	56	54	55	—	—	54.5	54	54	53
5	20.5	20	24	23	21.5	22	20	19	22.5	21.5	20	20	21	20.5	19.5	18	20	20.5	22.5	24
6	16	16.5	16.5	16.5	16	16	15	16	16	16	16	16.5	15.5	16.0	15	16	15	15.5	17	18
7	55	54.5	58	57	55	55	52.5	52	59	58	53	54.5	52	52	52	53.5	52	53.5	55	57
9	41	40.5	44	—	42	41	—	41.5	43	42	42	40	38	41	43	42	41.5	42	42	41
10	39	37	41.5	—	38	37.5	—	39	37.5	37	39	38	(34)	37	39.5	38	37.5	37.5	38	38
CI	2.8	3.0	3.3	3.3	3.9	4.0	3.6	2.8	2.8	2.1	3.6	3.8	2.8	3.3	3.8	2.6	3.5	3.4	3.7	—
8	125	123	(135)	—	123	119	—	124	124	122	127	122	(112)	122	127	125	123	123	124	122
6/5 · 100	78.0	82.5	68.8	71.7	74.4	72.7	75.0	84.2	71.1	74.4	80.0	82.5	73.8	78.0	81.1	88.9	75.0	75.6	75.6	75.0
7/1 · 100	18.0	17.9	17.6	—	17.1	17.7	—	16.8	19.2	19.6	16.5	17.2	19.5	20.0	16.7	17.7	16.3	17.0	19.7	20.0
Rad. 1	230	229	244	—	232	232	230	233	222	221	241	236	188	188	—	230	228	223	219	220
2	215	213	231	—	221	219	218	222	208	208	229	222	173	170	—	217	214	213	209	206
3	37.5	36	37	37	35	33.5	36	35.5	38	38	34	35	32.5	32.5	36.5	35	34	33	36	37
4	14	14	16	16	14	13.5	14	14.5	15.5	15	14	14	15	14	13.5	13.5	14	13.5	15.5	16
5	10	9.5	10.5	10	10	10	9.5	9.5	11.0	10.5	10	10	9.0	9.0	9.5	9.0	9	9	10	10
CI	2.8	2.7	2.7	2.6	3.2	3.0	3.1	2.8	3.2	2.8	2.3	2.2	2.8	2.7	—	2.7	2.7	2.6	3.0	3.1
3/2 · 100	17.4	16.9	16.0	—	15.8	15.3	16.5	16.0	18.1	17.5	14.8	15.8	19.4	19.1	—	16.1	15.9	15.5	17.6	18.0
5/4 · 100	71.4	67.9	65.6	62.5	71.4	74.1	67.9	65.5	71.0	70.0	71.4	71.4	60.0	64.3	70.4	66.7	64.3	66.7	64.5	62.5
Uln. 1	254	249	265	—	255	—	253	—	—	241	—	—	208	212	—	—	247	—	241	246
2	220	217	237	(228)	222	222	224	—	213	214	—	—	176	182	220	219	218	216	212	211
3	33	33	(38)	(36)	34	34	31.5	31.0	32	31	35.5	35.5	31.5	33.0	35.5	34.5	31.5	30.5	37.0	36.5
3/2 · 100	15.0	15.2	(16.0)	(15.8)	15.3	15.3	14.1	—	—	14.5	—	—	17.9	18.1	16.1	15.8	14.4	14.1	17.5	17.3
Sacr. 1	(5) 102		(7) —		(5) 118		(6) (118)		(5) 120		(6) 120		(5) 116		(7) —		(5) 104		(5) 107	
2	98		—		102		104		108		93		108		—		81		102	
5	108		125		122		117		122		117		(110)		—		115		120	
6	18		—		21		22		32		32		20		—		26.5		18	
9	90		101		99.5		97		90		95		92		—		93		95	
18	30		31		32		31		32.5		31		27.5		—		29		31	
19	47.5		65		51.5		59		60		52		49		—		45		53	
22	64°		57°		53°		59°		53°5		51°		56°		55°		50°		51°	
5/2 · 100	114.8		—		119.6		112.5		113.0		125.8		(101.9)		—		142.0		117.6	
9/5 · 100	83.3		80.8		73.4		82.9		73.8		81.2		(83.6)		—		80.9		79.2	
2/1 · 100	92.2		—		86.4		(88.1)		90.0		77.5		93.1		—		77.9		95.3	
6/2 · 100	19.1		—		20.6		21.0		29.6		34.4		18.5		—		35.2		17.6	
18/19 · 100	63.2		47.7		62.1		52.5		54.2		59.6		56.1		—		64.4		58.5	
Pelv. 1	200		218		203		201		206		198		196		(190)		197		189	
2	254		(278)		282		262		258		275		260		—		260		250	
3	166		—		159		—		164		168		—		—		175		167	
5	(207)		(235)		243		208		(217)		227		(220)		—		202		210	
23	100		—		90		104		109		92		—		—		105		98	
23:2	114		—		110		119		130		106		—		—		119		108	
24	139		(135)		140		136		131		158		126		—		131		134	
26	115		—		108		—		78		97		—		—		108		122	
27	122		(100)		102		110		106		110		108		—		112		125	
33	—		—		70°		—		75°		76°		—		—		78°		83°	
1/2 · 100	78.7		77.0		72.0		76.7		79.8		72.0		75.0		—		75.8		75.6	
23/24 · 100	71.9		—		64.3		76.5		83.2		58.2		—		—		80.2		73.1	
26/27 · 100	94.3		—		105.9		—		73.0		88.2		—		—		93.6		102.5	
24/2 · 100	54.7		48.6		49.6		51.9		50.8		48.7		48.5		—		50.4		53.6	
Fem. 1	428	426	451	454	425	424	445	440	418	420	428	432	352	357	403	404	421	423	405	410
2	425	424	445	447	419	422	442	438	414	414	425	428	349	352	400	402	415	416	400	405
8	78.5	79	80.5	84	77	81.5	75.0	73.5	81	82.5	75.5	76.5	70.5	70	74	74.5	72	73	76	70.5
20	116	127	142	140	133	134	134	133	129	127	132	132	127	127	131	133	128	127	126	125
21	69	70	76	76	73	72	71	69	70	72	71	69.5	65.5	66	70	72	71.5	72	72	71.5
29	135°	135°	132°	132°	131°	131°	129°5	128°	132°	133°	130°	130°	138°	135°	135°	134°	130°5	130°	136°	136°
6	29	25	27.5	25.5	25	26	24	22.5	27	26.5	23.5	24	21	21	22	23	23	23	24.5	23
7	24	25	25	26.5	26	27	26	25	26.5	27	25.5	26	25	24.5	25	25	25.5	24	25	23
CI	4.5	4.4	4.6	4.6	4.7	4.9	5.2	5.0	3.9	4.1	4.5	4.4	4.3	4.3	3.9	4.0	4.3	4.1	4.2	4.2
8/2 · 100	18.6	18.6	18.1	18.8	18.9	19.3	17.0	16.8	19.6	19.9	17.8	17.9	20.2	19.9	18.5	18.5	17.3	17.5	19.0	17.4
6+7/2 · 100	11.6	11.8	11.8	12.5	12.2	12.6	11.1	10.8	12.9	12.9	11.5	11.7	13.2	12.9	11.8	11.9	11.2	11.3	12.4	11.4
6/7 · 100	104.2	100.0	110.0	107.6	96.2	96.3	96.0	90.0	101.7	98.1	92.2	92.3	84.0	85.7	88.0	92.0	93.9	95.8	98.0	100.0
Tib. 1	331	331	354	360	349	352	350	352	336	332	334	333	272	273	317	320	335	342	325	325
1a	337	339	362	367	354	359	359	361	339	341	342	339	276	277	323	327	344	350	330	331
3	66	66	69	68.5	66	66	66	65	67	67	66	64.5	61.5	61.5	67	67	64.5	64	67	66
6	45	46	51	49	48	47	49	49	49	48	48.5	47.5	45	45	48	50	48	47.5	48.5	48.5
8	26	26	27.5	27	25	25	26	28	26	26	26	25	25.5	25	27	27	24	23	23	23
8a	29.5	30	32	30	28	29	29	28	31	33	29	29	25.5	25.5	30	30	27	28	27	26
9	19	19	22	22	20	21	18.5	19.0	22.5	22.5	20	20	18.5	18	19	19.5	19	19	20	20.5
9a	24	22	25	24	22	23	21	20	24	25	23	22	19.0	18.5	21	20.5	21.5	21	23	23
10b	64	63	69	70	64	65	63	64	67.5	70	65	64	61.5	61.5	65	66	60	59	62.5	62.5
CI	3.4	4.3	4.1	4.0	5.2	5.0	3.4	3.8	3.4	3.4	4.6	3.8	3.5	3.2	3.5	3.9	4.5	4.7	4.8	4.8
9/8 · 100	73.1	73.1	80.0	81.4	80.0	84.0	71.2	67.9	86.5	86.5	76.9	80.0	72.5	72.0	70.4	72.2	79.2	82.6	87.0	89.1
10b/1 · 100	19.0	19.0	19.5	19.4	18.3	18.5	18.0	18.2	20.2	21.1	19.5	19.2	22.6	22.5	20.5	20.6	17.9	17.2	19.2	19.2
9a/8a · 100	81.4	73.3	78.1	75.6	78.6	79.3	72.4	69.0	77.4	75.8	79.3	75.9	74.5	72.5	70.0	68.3	79.6	75.0	85.2	88.5
Fibu. 1	326	327	351	358	337	—	342	348	331	—	337	332	277	276	—	—	328	333	324	326
2	15.5	15	16	16	14	13	12.5	13	15	14	16	11	13.1	13.5	14	14.5	11	10	14	14
3	12	11	10.5	10	9	10	11	10	10	9.5	12	12	9.5	9.5	12	11.5	7.5	8.0	10	10
4	44	42	68	63.5	36	37	38	37	41	38	45	42.5	57	59	44	45	30	28.5	40.5	40
4a	32	30	36	34	29	29	28	27.5	33	33	35.5	35	31.5	30	33	33	25.5	24	34	31
4c1	25.5	23	28.5	27	—	—	24.0	22.5	27.5	—	26	25	20.5	20	—	—	22	21.5	24	22.5
4c2	22.5	23	28	24	23	23	24	24	26	25	24	25.5	23	23.5	25	25.5	23	23	23	24
3/2 · 100	77.4	73.3	65.6	62.5	64.3	76.9	88.0	76.9	66.7	67.9	75.0	80.0	73.1	70.4	85.7	79.3	68.2	80.0	71.4	71.4
4a/1 · 100	9.9	9.2	10.2	9.5	8.6	—	8.2	8.0	11.2	—	10.5	10.8	11.4	10.9	—	—	7.8	7.2	10.5	9.6

Skeletal series

Females

Latin (Grave) No.	41		42		43		44		45		46		47		49		50a		51	
Hum. 1	293	296	312	310	281	—	316	319	326	326	320	310	300	294	—	300	311	321	(304)	336
2	43	42.5	46	46	44.5	41	47.5	47.5	49	48.5	45	44	46	47.5	—	42	40	40	(36.5)	40.5
8	62.5	—	62	61.5	—	60.5	61.5	59	64	66	55	56	57	56	58	54	58	56	(49)	56.5
5	23.5	21	21.5	21	20.7	21	22.5	22	24	22.5	22	21	21	21	21.5	21.5	22.6	21	(23.5)	20
6	15	15	17	17.5	16	17	16	16	18	17.5	16.5	17	15.5	16.5	14.0	15.5	16	14	(11)	15
7	54.8	53	61	57.5	57	61.5	61	60.5	59.5	59	57	60.5	57	56.5	54	54	57.5	59.5	(42)	50.5
C8	39	36	45	45	41	41	44.5	41	46	44.5	43.5	44	45	44	—	42	45.5	44	(35)	42
C9	36.5	34	42.5	40	39	39	41	(39)	41.5	42	41	42	40	39	—	39.5	40.5	—	(31)	38.5
(3)	4.0	4.0	3.6	3.3	3.3	3.7	5.1	3.0	2.9	3.0	3.1	3.0	2.6	2.3	2.8	3.0	2.3	2.4	(2.1)	2.2
9	119	116	137	133	123	128	133	—	135	137	133	132	130	128	—	130	133	—	(100)	129
6/5 · 100	73.2	71.4	78.1	83.3	78.0	81.0	71.1	72.7	75.0	77.8	75.0	81.0	73.8	78.6	67.4	69.8	71.1	76.2	(71.0)	65.0
7/1 · 100	18.5	17.9	19.6	18.5	20.3	—	18.4	19.2	17.7	18.1	17.8	17.6	18.6	18.9	—	17.5	17.6	17.2	(13.8)	15.0
Rad. 1	230	222	230	228	—	—	—	—	229	221	237	234	—	220	224	223	229	225	(214)	252
2	213	201	216	214	—	—	—	—	213	210	223	219	—	204	—	209	212	204	—	237
3	36	35.5	39	39	35.5	36	38	38.5	40	38.3	37	37	38	38.5	35	35	38	34.5	(22)	35
4	14	13	16	15.5	16	16	15	15	16	17	15.5	15	—	16	14.3	14.5	17	16	(10.5)	14
5	9.5	9	10	11	10	11	10	10	11	11	10	10	—	10	10	10	10	10	(8)	9
(3)	3.1	2.7	2.8	3.0	2.3	2.4	2.7	2.5	2.4	2.3	2.4	2.6	3.0	3.0	2.4	2.4	2.6	2.6	3.0	1.8
3/2 · 100	16.5	16.8	18.1	18.2	—	—	—	—	18.8	18.2	16.6	16.9	—	18.9	—	16.7	17.9	16.9	—	13.9
5/4 · 100	67.9	69.2	62.5	71.0	62.5	68.8	66.7	66.7	68.8	64.7	64.5	66.7	—	62.5	69.0	69.0	58.8	55.6	(47.0)	64.3
Uln. 1	250	—	255	250	242	243	—	—	246	243	254	251	241	237	—	240	251	249	(231)	269
2	220	218	221	221	215	(214)	—	—	217	215	224	221	206	204	—	209	218	216	(202)	240
3	32	31.5	34.5	33.5	31.5	31.3	36	—	39	35.3	34	34	36.5	36	32.5	31	34	32.5	(22)	29
3/2 · 100	14.5	14.3	15.6	15.2	14.7	(14.7)	—	—	18.0	16.7	15.1	15.4	17.7	17.6	—	14.8	15.6	15.0	(10.9)	12.1

Latin (Grave) No.	41	42	43	44	45	46	47	49	50a	51
Sacr. 1	(5) 112	(3) 112	(3) 106	—	(5) 121	(7) —	(6) 109	(3) (113)	(6) 118	(5) 117
2	99	94	94	—	97	—	86	(98)	106	103
5	109	123	110	—	118	—	108	—	119	119
6	27.5	26.5	22.5	—	33	—	31	(29)	25	28
9	85	91	87	—	100	—	88	—	104	101
18	36	33	32	—	35	(29)	30.5	(23)	32.5	33
19	46	54.5	57	—	40.5	41	41	51.2	52	55
22	63	63	55	—	52	50	61	(54.5)	65	53
5/2 · 100	110.1	130.9	117.0	—	121.6	—	112.2	—	112.3	115.5
9/5 · 100	78.1	74.0	79.1	—	84.7	—	78.7	—	87.4	84.9
2/1 · 100	88.4	83.9	89.5	—	80.2	—	80.1	(86.7)	89.8	88.0
6/2 · 100	27.8	28.2	23.9	—	32.0	—	27.9	(25.6)	23.6	27.2
18/19 · 100	65.2	60.6	56.1	—	57.9	47.5	59.6	(54.7)	62.3	62.3
Pelv. 1	188	193	202	—	217	209	191	191	210	206
2	—	263	275	—	273	—	267	(260)	273	(274)
3	—	(177)	—	—	170	—	166	—	176	173
5	—	226	—	—	232	—	(221)	(222)	(228)	(274)
23	91	107	—	—	94	—	93	(93)	112	96.5
23.2	98	125	—	—	118	—	110	(106)	120	108
24	122	137	130	—	141	—	108	(122)	130	144
26	95	116	—	—	127	—	113	(110)	118	104
27	113	125	119	—	116	—	101	(73)	111	105
33	91	83	—	—	78	—	82	—	77	88
1/2 · 100	—	73.4	73.5	—	79.5	—	71.5	(73.5)	76.9	(75.2)
23/24 · 100	74.6	78.1	—	—	69.0	—	74.4	(77.9)	86.2	67.5
26/27 · 100	82.5	92.8	—	—	109.5	—	111.9	(146.1)	100.0	99.0
24/2 · 100	—	52.1	50.2	—	51.6	—	40.8	(46.9)	47.6	(52.0)

Latin (Grave) No.	41		42		43		44		45		46		47		49		50a		51	
Fem. 1	402	410	420	424	404	408	—	410	450	450	424	424	419	417	425	426	441	440	(433)	446
2	397	405	412	418	402	405	—	406	443	446	420	419	413	414	421	422	437	440	(429)	442
8	75	76	80	83.5	78	79	81.5	81	83.5	86	81	80	78	80	76	76	83.5	83.5	(60)	72
20	126	122	140	139	—	134	133	136	144	142	134	136	139	133	138	138	136	133	—	135
21	66	69	75	75	68	—	—	—	79	79	72.3	71	75	74	75.5	74.5	76	—	(65.5)	74
29	133	134	133	132	132.5	132	—	132.5	125	124	127	129	139	136	140	136.5	131	132.5	(135)	134
6	24	24	26	27	25.5	26.0	25.5	26	27	27	27	28	25	25	26	27	28	28	23	23
7	24.5	25.5	26	28	27.5	27	28	27.5	28	29.5	26	25	25	26	23	23	27.5	23	(19)	23.5
(3)	4.8	4.7	4.8	4.9	5.4	4.5	3.8	3.9	4.1	3.7	3.9	3.9	5.0	5.9	3.6	3.7	3.6	4.3	4.5	5.1
8/2 · 100	18.9	18.8	19.4	20.0	19.4	19.5	—	19.9	18.9	19.3	19.3	19.1	18.9	19.3	18.5	18.0	19.1	19.0	(14.0)	16.3
6+7/2 · 100	12.2	12.6	12.6	13.4	13.7	12.6	—	12.6	12.4	12.7	12.4	12.2	12.1	12.3	12.1	11.8	12.7	12.5	(9.9)	10.6
6/7 · 100	98.0	96.1	100.0	96.4	95.5	96.3	91.1	94.5	96.4	91.5	108.0	121.7	100.0	96.2	121.7	117.4	101.8	103.7	(155.3)	97.9
Tib. 1	332	332	342	342	—	330	—	—	348	345	339	337	313	311	336	335	353	352	361	361
1a	337	337	345	351	—	338	—	—	356	352	346	345	320	322	340	344	362	362	369	369
5	62	62.5	70	69	64	(63)	—	—	73	73	69	(63)	69	67.5	76.5	71.5	72	(70)	(63)	71
6	46	44	49.5	50	—	48	—	—	45.5	50	45	43	31	45	46	46	49	49	(43)	45.5
8	25.5	26	24	29	26.5	28	26	26.5	26.5	30	29	25	24.5	(24)	26	26.5	29.5	29.5	(24.5)	27
8a	30	29	(30)	32	29	30.5	30	29	31	33	25.5	27.5	28	28	31	31	32	32	(27)	25.5
9	19	19	20	20.5	17	17.5	20.5	21	20	19.5	19	20	20	20	18	18.5	20	20	(16.5)	19
9a	20.5	20	22	22	20	21	22	22.5	22.5	22	21.5	22	22	22	20	20	22.5	20	(17)	19.5
10b	66.5	68	70	76	61.5	62	—	—	70.5	71.5	62	63	62	—	63	64	70	71	(59)	62.5
(3)	4.9	4.3	4.3	3.9	4.4	4.1	4.1	4.3	3.0	3.1	2.6	2.7	3.6	2.7	3.0	3.0	3.0	2.9	2.7	3.6
9/8 · 100	74.5	69.2	69.0	70.7	64.2	62.5	78.8	79.2	70.2	65.0	76.0	80.0	81.6	(83.3)	69.2	69.8	70.2	70.4	(67.3)	70.4
10b/1 · 100	20.0	19.9	20.5	20.5	—	18.8	—	—	20.1	20.8	18.3	18.6	19.8	—	18.8	19.1	19.8	20.2	(16.3)	17.3
9a/8a · 100	68.3	69.0	(73.3)	68.8	69.0	68.9	73.3	77.6	72.6	66.7	75.0	76.4	78.6	78.6	64.5	64.5	70.3	62.5	(63.0)	68.4
Fibu. 1	333	332	—	336	—	324	—	—	347	—	—	331	315	310	331	332	337	335	(330)	—
2	13	12.5	17	15.5	12.5	12	14	14.5	14	15	14	15	15	14	14	14	13	13	(11)	14.5
3	11	11	12	13.5	9	10	13	12.5	12	12	9	9	10.5	10.5	11	11	12	11.5	10	9.5
4	41.5	41	50	50	36.5	37	46	44	46.5	46.5	40.5	41.5	39	39.5	46	46	41	41	(31.5)	38
4a	30	29	35	34.5	35	36	—	34.5	34	35	34.5	32.5	31	31	34	32	32.5	29	(26.5)	29
4(1)	23	22	—	26	27.5	28	—	—	27	—	—	—	27.5	26	27	24	25	25	—	—
4(2)	(22)	22.5	—	24	—	24	23.5	24.5	25.5	26.5	24	25	24	23	21	22	25	24	(21)	23
3/2 · 100	84.6	88.0	70.6	87.1	72.0	83.3	88.7	86.2	75.0	80.0	64.3	60.0	70.0	75.0	78.6	78.6	92.3	88.5	(72.7)	65.5
4a/1 · 100	9.0	8.4	—	10.3	—	11.1	—	—	9.8	—	—	9.8	9.8	10.0	10.3	10.1	9.7	8.6	(8.1)	—

Table 24 (continued)

Skeletal series

Females

Indiv. (Grave) No.	52 R	52 L	56 R	56 L	85a R	85a L	86 R	86 L	87 R	87 L	90 R	90 L	92 R	92 L	93 R	93 L	94 R	94 L	98 R	98 L
Hum. 1	309	309	316	316	322	317	318	323	314	310	318	314	316	316	324	323	—	—	—	297
2	47	48	47	46	45.5	45.5	50	46.5	36	38	48	48	48	48	47	47	—	—	—	48
4	58.5	58	56	55.5	55.5	55.5	59	58	65	55	56	58	57	58	60	59	—	—	58	57.5
5	24	24	21	20	21	22	21	23	22	21.5	22	20.5	20	20	21.5	22	—	—	20	19
6	15.5	15.5	19	15	16	16	16.5	16.5	16	16.5	17	17	16	15.5	17	15.5	—	—	16	15.5
7	59	59	59	61	55.5	55	57	56.5	56.5	57	59	56.5	54	56	57.5	57	—	—	61	56
C8	43	44	45.5	42.5	47	44	45	44.5	41.5	40	44	44	43.5	44	42	41.5	—	—	—	42
C6	39	39	40	39	39	39.5	41.5	40.5	40	38	41.5	40	38	39	38	38	—	—	—	37
(3)	1.5	1.6	1.7	2.1	2.8	2.8	3.1	2.7	3.3	1.7	3.9	4.2	3.4	3.1	3.1	3.3	—	—	—	—
9	—	131	130	131	132	117	134	133	130	127	135	133	127	127	132	131	—	—	[illegible]	0.9
6/5 · 100	64.6	64.6	71.4	75.0	76.2	76.2	78.6	82.6	72.7	76.2	77.3	82.9	80.0	77.8	79.1	70.5	—	—	—	137
7/1 · 100	19.1	18.8	18.1	17.9	17.2	17.8	17.2	17.6	18.0	18.4	18.7	18.0	17.0	17.1	17.5	17.8	—	—	80.0	81.6
																			—	17.2
Rad. 1	231	—	229	226	230	231	241	237	229	225	232	—	229	225	240	242	240	—	216	218
2	218	—	218	213	219	215	220	225	218	211	217	—	214	211	230	228	226	—	200	201
3	39.5	38.5	35	34	36	38.5	37	36	36.5	38.5	40	39	36	36	39.5	39	40.5	38	34	32.5
4	18	17	14.5	14.5	16.5	18	16.5	15	16	16	15	15	16.5	15.5	15	15.5	17	16	14.5	14.5
5	10.5	10	10	10	9.5	9	10.5	11	10	10	10.5	10.5	10	10	10.5	10.5	10	10	9.5	9.5
(3)	2.3	2.4	2.3	2.5	2.7	2.7	2.7	2.5	2.3	2.2	3.1	2.4	2.5	1.5	1.5	1.5	2.4	2.4	0.9	0.9
7/2 · 100	18.4	17.9	16.2	16.8	16.8	16.0	16.4	16.4	18.0	18.2	18.9	—	16.7	17.1	16.7	16.7	17.3	—	16.5	16.2
5/4 · 100	56.3	58.8	69.0	69.0	57.6	50.0	63.6	73.3	62.5	62.5	70.0	65.6	60.6	64.5	70.0	72.4	58.8	55.6	65.5	65.5
Uln. 1	255	—	257	—	258	253	260	261	252	247	255	—	250	245	260	261	264	—	236	239
2	221	—	218	216	218	223	231	232	224	218	223	—	228	215	233	231	232	—	204	210
3	40	—	36	34	39	39	35	33.5	34	33.5	37	38.5	32.5	33	34	32	34	—	33	31.5
3/2 · 100	18.1	—	16.5	15.7	17.9	16.7	15.2	14.4	15.2	15.4	16.6	—	14.9	15.3	14.6	13.9	14.7	—	16.2	15.0

Indiv. (Grave) No.	52	56	85a	86	87	90	92	93	94	98
Sacr. 1	(7) —	(6) 115	(5) 119	(6) 138	(5) 119	(5) 109	(?) —	(6) 110	(5) —	(5) —
2	—	99	106	117	(87)	102	—	100	—	—
5	106	115	115	109	116	120	111	116	—	—
6	—	21	17	18	34	20	—	75	—	—
9	91	92	90	102	96	91	—	105	—	—
18	—	34	53.6	38	(32)	30	—	55.5	—	—
19	94	54	54.5	55	57	34	56	54	—	38
32	84	57	57	66	58	45	—	56	—	—
5/2 · 100	—	116.2	111.7	89.2	(133.0)	117.6	—	116.0	—	—
9/5 · 100	76.4	80.0	78.3	81.3	82.6	75.8	—	89.0	—	—
2/1 · 100	—	86.1	90.4	93.4	(96.3)	85.0	—	90.9	—	—
6/2 · 100	—	21.2	16.5	16.2	(29.3)	19.6	—	15.0	—	—
18/19 · 100	—	63.0	61.7	63.6	(56.1)	55.8	—	65.1	—	—
Pelv. 1	196	208	202	218	196	214	195	217	213	196
2	—	264	261	284	254	266	252	271	—	—
3	—	(158)	173	173	165	—	—	189	—	—
5	—	(233)	218	244	(210)	227	206	219	—	—
23	—	93	101	106	(94)	—	—	113	—	—
23.2	—	116	116	129	(112)	—	—	134	—	—
24	118	132	133	142	126	—	129	140	—	—
26	—	107	113	122	109	—	—	135	—	—
27	89	110	108	105	109	106	(93)	121	—	—
33	—	—	95	87	70	—	—	84	—	—
1/2 · 100	—	78.8	76.4	76.1	77.2	80.4	77.4	80.1	—	—
23/24 · 100	—	70.5	75.9	91.5	(74.6)	—	—	80.1	—	—
26/27 · 100	—	97.3	104.6	116.2	103.6	—	—	111.6	—	—
24/2 · 100	—	50.0	50.6	50.0	49.6	—	51.2	51.7	—	—

Indiv. (Grave) No.	52 R	52 L	56 R	56 L	85a R	85a L	86 R	86 L	87 R	87 L	90 R	90 L	92 R	92 L	93 R	93 L	94 R	94 L	98 R	98 L
Fem. 1	420	421	413	413	420	420	450	451	416	419	434	435	432	437	459	456	472	474	(368)	366
2	417	414	411	410	416	412	446	446	415	412	429	431	426	432	456	452	462	469	365	365
8	84	86.5	88	85	78	79	75	79	75	—	80	81	79	76	82	82	82.5	81	69.0	72
20	126	125	130	130	119	116	146	144	127	131	141	142	129	131	141	146	136	—	path.	129
21	76	74	73	75	70.5	70.5	75.5	75	71	71.5	74	76	70	72	74	72.5	76	76	(70.5)	74
29	133	132	131	130	136	130	139	138	136	137	131	131	130	131	146	146	133	135	(134.5)	132
9	27.5	28	29	29	26.5	26.5	25.5	26	25.5	25	25.5	25.5	26.5	26	27	27	27.5	27	23	23
7	26	26	27	28	24	24	24	23	24	24	26	27	24	22	25.5	25.5	25	25	24	23.5
(3)	5.0	2.9	3.1	4.6	4.1	4.3	3.7	1.8	1.8	3.4	4.3	5.0	3.3	5.6	4.9	4.0	—	3.6	2.6	3.0
8/2 · 100	20.1	20.1	20.6	20.5	18.6	19.2	16.8	17.7	18.2	18.5	18.7	18.8	18.3	17.1	18.2	18.1	17.9	17.4	17.8	18.7
6+7/2 · 100	12.5	12.6	13.5	13.7	12.1	12.2	11.1	11.3	11.5	11.8	12.0	12.2	11.9	11.1	11.7	11.6	11.1	11.2	11.9	12.1
6/7 · 100	103.8	107.7	103.7	103.6	110.4	110.7	106.3	108.6	106.3	104.3	98.1	99.4	110.4	118.2	105.9	105.9	110.0	108.0	100.0	99.9
Tib. 1	352	353	331	330	339	343	351	356	335	340	340	340	339	342	359	361	—	—	318	317
1a	350	358	319	309	345	351	351	362	340	344	336	341	344	349	365	366	—	—	321	(315)
3	57	59	65	66	69	66.5	68.5	70	71	70	68	70	66	68	66	66	—	—	61	59
4	—	54	47	44	46.5	45	45	47	50	50.5	47	45	50	50.5	45.5	44	—	—	46	45.5
5	27	27	26	25.5	22	22	26.5	28	28	28.5	27	27	24.5	25.5	28	29	—	—	24.5	26.5
8	32	32	27	23	28	29.5	28	28	30	30	29	29	29	28	30	30.5	—	—	23	29
8a	21	40	19	19	20	19	19	19	19	19.5	20	20	22.5	19	19	19	—	—	18	18
9	24	27	21	20.5	21	20.5	21	20	21	20.5	22	21	20	20	22	21	—	—	19	19
10b	73	70	69	71	66	65	61	62	67	67.5	66.5	66	65	62	70	69.5	—	—	65	66
(3)	5.1	5.0	3.3	3.4	2.9	2.9	3.0	3.3	4.2	3.1	7.1	3.5	7.1	3.3	3.8	3.3	—	—	1.7	1.4
9/8 · 100	77.8	74.1	73.1	74.0	74.1	70.4	71.7	64.3	67.9	68.4	74.1	74.1	79.3	74.3	67.9	65.5	—	—	73.5	67.9
10b/1 · 100	20.3	19.8	19.9	19.1	19.5	19.0	17.4	17.4	20.0	19.9	19.6	19.4	19.2	18.1	19.5	19.1	—	—	19.8	20.2
9a/8a · 100	75.0	71.9	72.4	76.7	75.0	69.5	72.4	69.0	70.0	68.7	76.5	72.4	69.0	71.4	73.3	68.9	—	—	65.5	65.5
Fib. 1	341	—	327	324	338	338	351	351	330	—	331	330	—	342	—	356	—	—	—	—
2	17.5	—	14	12.5	14	15.5	12	13	15.5	16	14	14	14	11.5	16	14.5	—	—	14	13
3	10	—	12	10.5	11	10.5	10	10	13.5	11	11	11	9.5	10	11	10	—	—	11	11
4	16	—	45	37.5	46.5	44	36	36.5	38	37	41	41.5	33	35	44	40.5	—	—	42	38
4a	11	—	31	28.5	33.5	35	29	29	38	34	34	32	37	29	36	31	—	—	29.5	30
4(1)	—	—	26	25	26	25.5	25	25	27	27	24.5	25	—	26	25	26.5	—	—	—	—
4b	27	22.5	21	21.5	20	21	26	25	26	—	23	22	20	24	23	23	—	—	24	—
2/1 · 100	76.2	—	85.7	84.0	68.8	67.3	82.5	74.8	67.1	81.1	73.6	75.6	76.4	77.0	64.5	69.0	—	—	—	—
4a/1 · 100	9.5	—	9.7	9.9	10.0	9.8	8.3	8.2	10.3	—	10.0	9.5	—	9.8	—	8.7	—	—	78.6	84.6

Table 24 (continued)

Skeletal series

Females

Indiv. (Grave) Nr.	66		67		68		69		71		72a		73		74		79		80	
Hum. 1	(344)	325	346	306	299	296	291	296	317	306	313	306	303	297	—	—	322	—	303	299
2	(38)	[illegible]	44,5	45	42	44	45	47	46	45	46	43	45,5	43	—	—	43,5	—	45,5	45,5
4	(33)	37	52,5	52,0	56	54	54	55,5	57	57	55	54	52	52,0	66	—	54	65	55	—
5	(14,5)	20	20	19,5	20	22	19	19	22	22	20	19	20	20	21	22	24	23,5	21	20
6	(10)	17	14	14,5	14	14	16	16	17	17	15	15,5	17	19	15	15,5	16	16	15	16
7	(44)	56,5	52,5	55	55	53	53	52,5	60	60	58	54	51,5	52	59	59	61	62	61,5	60,5
C#	(30)	43	41,5	42	42	41,5	42	41	43	42	41	39	40	40	—	—	—	—	42	41
C6	—	40	36	36,5	38	38	37	36,5	40	40,5	36,5	36,5	38,5	39	—	—	—	—	39	38,5
11	(2,5)	4,0	4,2	4,0	3,9	3,7	2,2	3,1	3,9	2,0	2,9	3,1	2,6	2,7	2,6	2,5	3,7	3,4	3,1	2,9
9	—	130	127	127	127	122	127	126	131	129	121	120	122	126	—	—	—	—	(128)	123
6/5 · 100	(89,7)	86,0	76,0	74,4	70,0	72,0	80,0	84,0	77,1	77,1	75,0	81,0	75,0	75,0	64,3	70,4	75,0	76,6	71,4	80,0
7/1 · 100	(16,7)	17,2	17,0	18,0	18,1	17,9	18,0	17,7	19,2	19,6	17,5	17,6	17,0	17,5	—	—	19,2	—	17,0	17,0
Rad. 1	—	239	234	—	224	221	226	223	233	231	227	225	229	229	240	—	235	231	236	227
2	—	209	210	—	211	210	211	209	219	219	218	214	215	215	224	—	225	218	220	212
3	(31,3)	39,5	34,6	34	33,5	32	34,0	35	40,5	40,5	34	33,5	35,5	33,5	38	38	40,5	40	35,5	33
4	(12,3)	17,5	21	12	11,5	14,5	19	13	16,5	13	12,5	13	13	13	19	15	16,5	16,5	20	14
5	(8,5)	11	9,5	10	9	9	10	10	10,5	11	10	9,5	9,5	9,5	10,5	10,5	11	10,5	10	9,5
CI	75,3	—	2,8	3,0	2,4	3,5	2,9	2,9	2,0	2,9	2,5	2,6	2,7	2,6	2,1	2,1	3,1	3,0	2,7	2,7
3/2 · 100	—	17,2	15,8	—	15,9	15,2	16,4	16,6	18,5	18,5	15,6	15,7	16,5	15,6	17,0	—	18,1	18,3	16,1	15,6
5/4 · 100	(69,0)	62,9	45,2	83,3	66,7	62,1	52,6	76,9	63,6	84,6	80,0	73,1	73,1	73,1	55,3	70,0	66,7	63,6	50,0	67,9
Uln. 1	(226)	262	—	254	245	241	240	—	250	257	—	—	—	249	250	—	257	252	252	—
2	(198)	233	—	220	214	211	210	214	220	220	—	—	—	218	231	—	228	224	223	214
3	(31)	36	—	30,5	31	29,5	33	33	—	35,5	31	30,5	30,5	30	30,5	34	36	36	37,5	39
3/2 · 100	(15,7)	15,5	—	13,9	14,5	14,0	15,7	15,4	—	16,2	—	—	—	13,8	15,8	—	15,8	16,1	16,8	18,2

Indiv. (Grave) Nr.	66	67	68	69	71	72a	73	74	79	80
Sacr. 1	(5) 118	(5) 117	(5) 111	(5) 104	(5) 128	(?) —	(5) —	(5) 112	(5) 120	(?) —
2	100	97	90	89	105	—	—	(102)	115	—
5	111	120	116	109	115	112	110	128	136	120
6	26,5	27,5	26	24	14,5	—	—	18	17,5	—
9	98	98	89	90	90	87,5	84	108	102	(101)
14	29	30	32	31	31	39	28	22	30	29
19	52	89	56	49	52	48	49	51	59	49,5
22	56,5	56	59	63	52	60	61	56	59	64
5/2 · 100	109,5	123,7	128,9	122,5	111,7	—	—	(125,5)	113	—
9/5 · 100	88,3	81,7	76,7	82,5	78,5	78,1	76,4	84,4	75,5	(84,2)
2/1 · 100	84,4	82,9	81,1	85,6	82,4	—	—	(91,9)	95,8	—
6/2 · 100	25,6	28,4	31,1	27,0	13,5	—	—	17,6	15,2	—
19/18 · 100	95,8	91,2	87,1	81,7	99,3	60,4	87,1	52,9	59,5	66,6
Pelv. 1	201	196	194	188	199	205	191	219	201	204
2	271	261	233	259	250	(262)	253	290	271	256
5	—	165	176	156	101	—	(160)	—	—	—
8	—	(229)	190	(213)	186	220	225	(260)	242	221
23	—	109	105	98	112	—	100	—	—	119
23(2)	—	136	119	101	127	—	118	—	—	125
24	128	117	131	122	123	124	118	148	157	132
26	—	114	110	102	111	—	—	—	—	—
27	99	116	114	105	113	107	100	132	130	—
33	—	—	86	91	79	—	77	—	—	—
1/2 · 100	74,2	75,1	83,3	72,5	80,0	(77,9)	75,5	75,5	74,2	79,7
23/24 · 100	—	93,2	80,2	78,7	91,2	—	84,7	—	—	90,2
26/27 · 100	—	98,3	96,5	97,1	96,5	—	—	—	—	—
24/2 · 100	47,2	44,8	56,2	47,1	49,5	47,3	46,6	51,0	50,6	51,7

Indiv. (Grave) Nr.	66		67		68		69		71		72a		73		74		79		80	
Fem. 1	—	431	431	420	407	407	399	396	428	426	410	408	399	399	—	—	454	—	422	422
2	—	431	417	417	404	405	396	393	419	421	407	407	392	396	—	—	449	—	415	416
8	82,5	81	76	76	72	72	74,5	76,5	82	81	76	75	72	72	78	81,5	84	85,5	82	81,5
9a	129	132	130	130	124	—	132	135	130	131	123	120	125	127	—	—	(137)	(133)	(126)	(123)
21	71,5	69	72	70,5	—	—	72	69	72	70	67	67	66	65	(72)	—	73	72	71,5	(70)
29	—	131	125	128	129	128	127,5	129	138	131,5	125	123	130	134	—	—	132	132	141	141
6	26	26,5	25	25,5	21,5	22,5	23	22,5	27,5	27,5	22,5	23	21,5	22	26	27	29	28	26,5	26,5
7	26	28	26	25,5	25	25	25	26	24,5	25,5	26	27	25	26	24	25	27	27	26	27
GI	4,1	4,4	4,0	3,8	4,9	3,7	3,9	4,0	3,8	3,8	4,3	4,0	3,9	3,8	3,4	3,3	4	4	3,4	3,5
8/2 · 100	—	19,7	18,2	18,2	17,8	17,8	18,8	19,0	19,6	19,2	18,6	18,4	18,4	18,2	—	—	18,7	—	19,8	19,6
6+7/2 · 100	—	12,6	11,8	11,8	11,5	11,5	12,1	12,3	12,4	12,6	12,2	12,4	11,7	11,6	—	—	12,5	—	12,7	12,9
6/7 · 100	100,0	101,9	96,2	92,2	86	86	92,0	86,5	112,2	107,8	86,5	85,2	86,0	81,7	108,3	108,0	107,4	107,4	101,9	98,1
Tib. 1	—	343	341	340	327	322	306	307	328	329	327	325	318	317	340	351	358	366	349	350
1a	—	345	346	345	326	325	311	312	335	331	334	332	325	326	—	—	362	365	351	356
5	—	67	64,5	65	65	65,5	66	64	67	65	62	63	63	61	—	—	71	70	66	66
6	—	45	46	45	—	45	45	45	46	46	44	45	42	42	51	52	—	—	46	45,5
8	—	27,5	26	26	26	26	24	24	25	27,5	25	25	24	23,5	28	27,5	30	29,5	26	27,5
8a	—	30	29	29	27	27,5	26,5	26,5	30	32	30	30,5	26,5	27	30,5	30	34	31,5	29	30
9	—	20	19	18	19	18	18,5	19	21	21	19	19	19	19	21	21	23	23	20	20
9a	—	21	19,5	19	20,5	20	21	21	22,5	23,5	20	20,5	21	21	26	24	29,5	27	23	22
10b	—	65,5	61	60	62	62	62	61	69,5	69	63	64	57,5	58	72	71	74	73,5	69	68,5
CI	—	3,8	3,5	3,5	3,5	4,1	4,2	4,2	3,5	3,5	4,3	3,7	3,6	3,0	3,7	3,3	3,6	3,6	4,7	4,2
9/8 · 100	—	72,7	73,1	69,2	69,2	69,2	77,1	79,2	75,0	76,4	76,0	69,1	79,0	80,9	82,1	76,4	83,3	84,8	76,9	72,7
10b/1 · 100	—	19,6	17,9	17,6	19,2	19,3	20,3	19,9	21,2	21,0	19,3	19,8	18,1	18,3	20,7	20,2	20,8	20,4	19,8	19,7
9a/8a · 100	—	70,0	65,8	65,5	75,9	72,7	79,2	79,2	75,0	73,4	66,7	67,2	79,2	77,8	85,2	80,0	86,8	85,7	79,3	73,3
Fib. 1	—	—	337	336	—	—	304	305	319	321	—	—	—	320	—	—	—	351	—	—
2	14	14	13,5	14	13	—	13	13,5	17	15	13	13	13,5	12,0	15	14,5	17,5	16	13	13
3	12	11,5	9,5	9	10	—	11	10,5	12	12	10	10	10	10	11	10,5	10	9,5	10,5	11
4	40,5	42	40,5	40	38	—	39	40	40	44	40	38	35	33	45	47	48	46	39	46
4a	32,5	32,5	28	27	29	—	26	24	32	33	32	30	30	30,5	34	32	35	33	31	31,5
4(1)	23	—	23,5	24	—	—	25,5	24,5	21	21,5	—	—	24	24	—	—	—	(22,5)	—	—
4(2)	—	22,5	22	22	22,5	—	24	24	22	22,5	24	25	21,5	21,5	(27)	—	—	(21)	25	24,5
3/2 · 100	85,7	82,1	70,4	64,3	76,9	—	84,6	77,8	80	80	76,9	76,9	87,0	83,3	73,3	72,4	57,1	59,4	80,8	84,6
4a/1 · 100	—	—	8,3	8,0	—	—	11,8	11,1	10,1	10,3	—	—	—	9,5	—	—	—	9,4	—	—

Table 24 (continued)

Skeletal series

Females

Index (Grave) No.	82		84		86		87		88a		89d		89e		90a		91		92	
Hum. 1	—	276	268	265	292	292	295	290	322	319	—	299	—	—	—	—	309	308	338	328
2	—	—	45	45	45	—	47	42.5	50	50	—	45	54	—	—	—	47	46	49	47.5
4	55	54	54.5	56	61.5	61.5	59	56	59	58	—	59	—	—	—	—	58	59	61	61
5	20	19	21	20.5	19.5	19.5	20	20	23	22	—	22	21	21	—	—	21	21	23	23.5
6	14	15	14	15	16	16	16.5	15	16.5	17	—	17.5	16	16	—	—	14.5	14	15.5	15.0
7	50	56.6	55	56	57.5	59.5	61	62.5	56.5	55.6	—	56	52.5	—	—	—	55.5	55.5	55	54
C8	—	—	60	62	61	62.5	61	62	66	66	—	61	38	38.5	—	—	—	61	64.5	66
E6	—	—	37.8	38	38	37	47	41	42	40.6	—	15.4	38	37.5	—	—	—	40	40	39.5
DI	1.0	2.8	3.3	3.4	4.1	2.6	2	2	2.2	2.1	—	2.5	—	2.5	—	—	—	2.6	2.5	2.4
9	—	—	121	122	129	—	(135)	(118)	141	136	—	125	121	118	—	—	—	131	131.5	131
6/5 · 100	70	78.9	66.7	73.2	82.1	82.1	72.8	75.0	82.3	85.0	—	74.6	76.2	—	—	—	69.0	66.7	67.4	69.5
7/1 · 100	—	20.1	20.1	20.4	19.7	20.4	19.5	18.1	17.5	17.4	—	18.7	—	—	—	—	18.0	17.7	16.5	16.4
Rad. 1	221	222	193	192	—	221	211	208	—	—	231	—	226	221	—	—	223	218	(241)	230
2	208	207	178	177	—	205	195	199	—	—	209	—	214	208	—	—	211	209	(226)	210
3	36	36	14.3	33	39	38	34.5	35	41	37	38	—	38	32	—	—	30.5	36	38	35
4	13	14	14	13.5	13	15	14.5	14.0	17	16	14.5	—	16	15.5	—	—	15	15	15	16
5	9.5	10	10	9.5	10	9.5	10	9	11	10.5	10.5	—	10	10	—	—	10	10	10.5	11
DI	2.5	3.1	2.7	2.7	2.6	2.5	2.5	2.6	1.9	2.1	2.5	—	2.9	2.8	—	—	2.3	2.1	1.9	1.7
3/2 · 100	17.3	17.4	19.4	18.6	—	18.2	17.4	17.5	—	—	17.2	—	17.8	17.8	—	—	17.1	17.2	(15.0)	15.4
5/4 · 100	71.1	71.4	71.4	65.5	66.7	63.3	69.0	64.3	64.7	65.6	71.0	—	62.5	64.5	—	—	66.7	66.7	70.0	68.8
Uln. 1	—	239	220	216	241	242	235	236	207	256	—	—	247	242	—	—	—	—	271	260
2	209	206	187	185	212	212	206	207	240	238	—	—	213	210	—	—	—	—	244	239
3	34	35	31.5	31	34.5	33.5	32	31.5	27	32	—	36	33.5	33.3	—	—	31.0	30.5	28	31.5
3/2 · 100	16.3	15.9	16.8	16.8	16.3	15.8	15.5	15.2	11.3	13.4	—	—	15.7	15.9	—	—	—	—	11.5	13.2
Sacr. 1	(5) 107		(6) 121		(4) 125		(5) 114		(5) 113		(7) —		(5) 109		(6) 116		(6) 119		(5) 115	
2	95.5		109		108		100		100		—		100		91.5		96		100	
5	110		106		—		111		—		—		113		111		122		121	
6	25.5		25		21		24.5		19		—		20		31.5		31.5		27	
9	91		88		—		89		101		—		98		93		91		—	
10	31		27		30		25		36		—		28		32.5		34.5		31.5	
18	44.5		95		89		62		62		—		90		86.5		92		96	
22	55°		64°		64°		61°		59°		—		56°		58°		61°		58°	
5/2 · 100	117.6		96.1		—		111		—		—		113		123.5		127.1		121	
9/5 · 100	82.7		83.0		—		78.8		—		—		79.6		82.1		74.6		—	
2/1 · 100	87.4		90.1		86		87.7		88.5		—		91.7		78.4		80.7		87.0	
6/2 · 100	25.1		22.9		19.7		24.5		19.0		—		20.0		34.4		32.8		27.0	
18/19 · 100	49.7		96.5		61.2		46.7		68.5		—		56.0		47.0		55.6		58.6	
Pelv. 1	198		196		185		187		191		214		194		202		206		203	
2	257		238		—		248		—		—		—		250		—		283	
3	(160)		142		—		150		—		—		—		171		—		167	
4	220		213		—		216		—		—		—		221		—		233	
23	96		81		—		87		—		—		—		102		—		(100)	
33a	111		100		—		98		—		—		—		119		—		109	
24	123		120		—		141		—		—		—		124		—		144	
26	110		100		—		102		—		—		—		104		—		112	
27	103		95		—		112		—		—		—		110		—		114	
33	62°		68°		—		56°		—		—		—		72°		—		—	
1/2 · 100	77.0		79.8		—		75.4		—		—		—		80.8		—		71.7	
23/24 · 100	78.0		69.2		—		61.7		—		—		—		82.3		—		69.4	
26/27 · 100	106.8		105.3		—		91.1		—		—		—		94.5		—		98.2	
24/2 · 100	47.9		50.4		—		56.9		—		—		—		49.6		—		50.9	
Fem. 1	402	400	356	357	415	408	388	386	549	550	—	410	—	415	415	412	424	—	462	462
2	397	397	356	358	409	405	388	381	551	546	—	413	—	408	410	411	422	—	457	458
6	77	77	68	67	78	77	73	74.5	80	79	—	77	—	78	81	82.5	79	79	79	78.5
8	138	135	118	122	129	131	129	122	172	162	—	138	131	129	134	135	132	133	159	155
21	74	73	66	66	71	71	69	69	76	75	—	—	72	73	72.5	73	75	—	75	74.5
28	131°	134°	131°	131°	130°	130°	125°	125°	130°	131°	—	132°	—	129°	132°	132°	139°	—	137°	141°
9	25	24	21	20.5	23	23	22	22	24.5	25.5	—	26	25	25	26	29	25	25	29	28.5
7	23	26	27	23	25	26	25	25.5	24	25.5	—	25	24.5	24.5	24.5	26	26.5	26.8	25	23
DI	4.6	4.6	5.5	5.9	3.8	5.7	4.2	4.2	5.9	2.8	—	6.6	—	6.0	6.6	6.0	—	4.9	5.8	5.4
8/2 · 100	17.4	19.4	19.2	13.8	19.1	19.6	19.0	15.6	18.1	17.7	—	17.8	—	19.1	19.8	20.2	18.7	—	17.5	17.1
6+7/2 · 100	12.0	12.6	12.8	12.3	11.7	11.9	12.2	12.5	11.4	11.0	—	11.5	—	12.1	12.5	12.7	12.2	—	11.3	11.2
6/7 · 100	100	92.3	91.1	89.1	92	92	88	86.3	110.4	108.5	—	113.8	102	102	106.1	100.0	94.3	94.3	121.7	121.9
Tib. 1	—	(280)	288	288	345	338	309	300	359	362	351	351	320	325	330	330	337	339	370	380
1a	—	(296)	285	285	345	346	315	311	364	355	360	362	333	331	339	338	344	346	382	388
3	69	68	62	61.5	66	65	65	65	73	71	63	65	66.5	65	69	68.5	69	70	(64.5)	70
4	—	(44)	45.5	45	45	47	46	44	45	50	47	46	45	46	49	46	50	48	49.5	49
8	25	26	24	23	27	27	23	23	25.5	25	26	28	26	26	26.5	25.5	28	28	27.5	28
8a	27	27.5	26	26	29	29.5	27	26.5	30	29	31.5	33	31	30.5	30	30	30.5	31	29.5	29
9	19.5	21	16	16	18	18	19	19	—	20	19	20	20	19.5	19.5	20	20	19.5	21.5	20.5
9a	21	22	18.5	19	21	20	21	21	—	22.5	19	20	22	22	22	23	21	20	22	23
10b	69	(72)	57	58	66	65.5	67.5	69	—	71	66	67	70	68	72	71	66.5	67	67	68
DI	4.5	4.2	4.5	4.4	3.9	3.9	3.6	3.5	2.5	2.4	3	3	3.0	3.4	4.3	3.8	2.9	4.2	2.8	2.6
9/8 · 100	78.0	80.8	66.7	66.7	66.7	66.7	82.6	76.1	—	80	64.2	71.4	76.9	75.0	73.6	78.4	71.4	69.6	78.2	73.2
10b/1 · 100	—	(25)	19.8	20.4	19.4	19.4	21.8	19.8	—	21.3	19.4	19.0	21.9	20.9	21.8	21.5	19.7	19.8	17.6	17.4
9a/8a · 100	77.8	80.0	71.2	69.2	72.4	70.7	74.1	71.7	—	77.6	60.3	60.6	71.0	72.1	76.7	76.7	65.6	64.5	74.6	72.4
Fibu. 1	—	—	280	284	—	—	—	—	—	358	—	—	335	—	329	330	—	—	—	—
2	12	12	11	11	11.5	11.5	—	14	—	14	13	—	14	—	15	16	—	—	—	—
3	10	9	9	9.5	10	9	—	9	—	10	10	—	14	12	13	14	16	14	12	14
4	38	36.5	33.5	35.5	36	38	—	38	—	40	10	—	13.5	11	11	11	—	10	11	11
4a	42.5	37.5	39	37.5	39.5	28.5	—	32	34	37	11	—	43.5	41	44	42	—	39	39	40.5
4(1)	37	28	19	21	—	—	—	—	—	28	—	—	33.5	36.5	36	37	31.5	33	35.5	37
4(2)	—	—	23	22	23	23	—	23.5	24	24	21	—	23	23	25	27	—	—	—	—
3/2 · 100	83.3	75.0	86.1	75.1	87	78.3	—	64.3	—	71.4	76.9	—	85.7	73.6	73.3	78.6	—	71.4	91.7	78.6
4a/1 · 100	—	—	15.2	9.7	—	—	—	—	—	9.5	—	—	10.8	—	11.6	11.4	—	—	—	—

[illegible]

[illegible]

Indic. Mineral No.	93a	93b	94a	94c	95	96	97a	97b	100	101
Hum. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6/5 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7/1 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rad. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5/4 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Uln. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sacr. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5/1 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4/5 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2/1 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18/19 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pelv. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23/24 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26/27 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fem. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6/7 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tib. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10b	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9/8 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10b/1 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9a/8a · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fibu. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3/2 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4a/1 · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 24 (continued)

[illegible]

[illegible]

Inv. (Grave) No.	106		188		224		225		226		227	
Hum. 1	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
2	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
4	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C [illegible]	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
C [illegible]	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
CI	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible] · 100	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
Rad. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Uln. 1	—	—	[illegible]	—	—	—	[illegible]	[illegible]	[illegible]	—	—	[illegible]
2	—	—	[illegible]	—	—	—	[illegible]	[illegible]	[illegible]	—	—	[illegible]
3	—	—	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	—	—	[illegible]	—	—	—	[illegible]	[illegible]	[illegible]	—	—	[illegible]
Sacr. 1	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
2	[illegible]		—		[illegible]		—		[illegible]		—	
3	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
4	[illegible]		[illegible]		[illegible]		—		[illegible]		—	
5	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
[illegible] · 100	[illegible]		—		[illegible]		—		[illegible]		—	
[illegible] · 100	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
[illegible] · 100	[illegible]		—		[illegible]		—		[illegible]		—	
[illegible] · 100	[illegible]		—		[illegible]		—		[illegible]		—	
[illegible] · 100	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
Pelv. 1	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		[illegible]	
2	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
3	[illegible]		[illegible]		[illegible]		—		[illegible]		—	
4	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
23	[illegible]		[illegible]		[illegible]		—		[illegible]		—	
[illegible]	[illegible]		[illegible]		[illegible]		—		[illegible]		—	
24	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
26	[illegible]		—		[illegible]		—		[illegible]		—	
27	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
33	—		[illegible]		[illegible]		—		—		—	
[illegible] · 100	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
[illegible] · 100	[illegible]		[illegible]		[illegible]		—		[illegible]		—	
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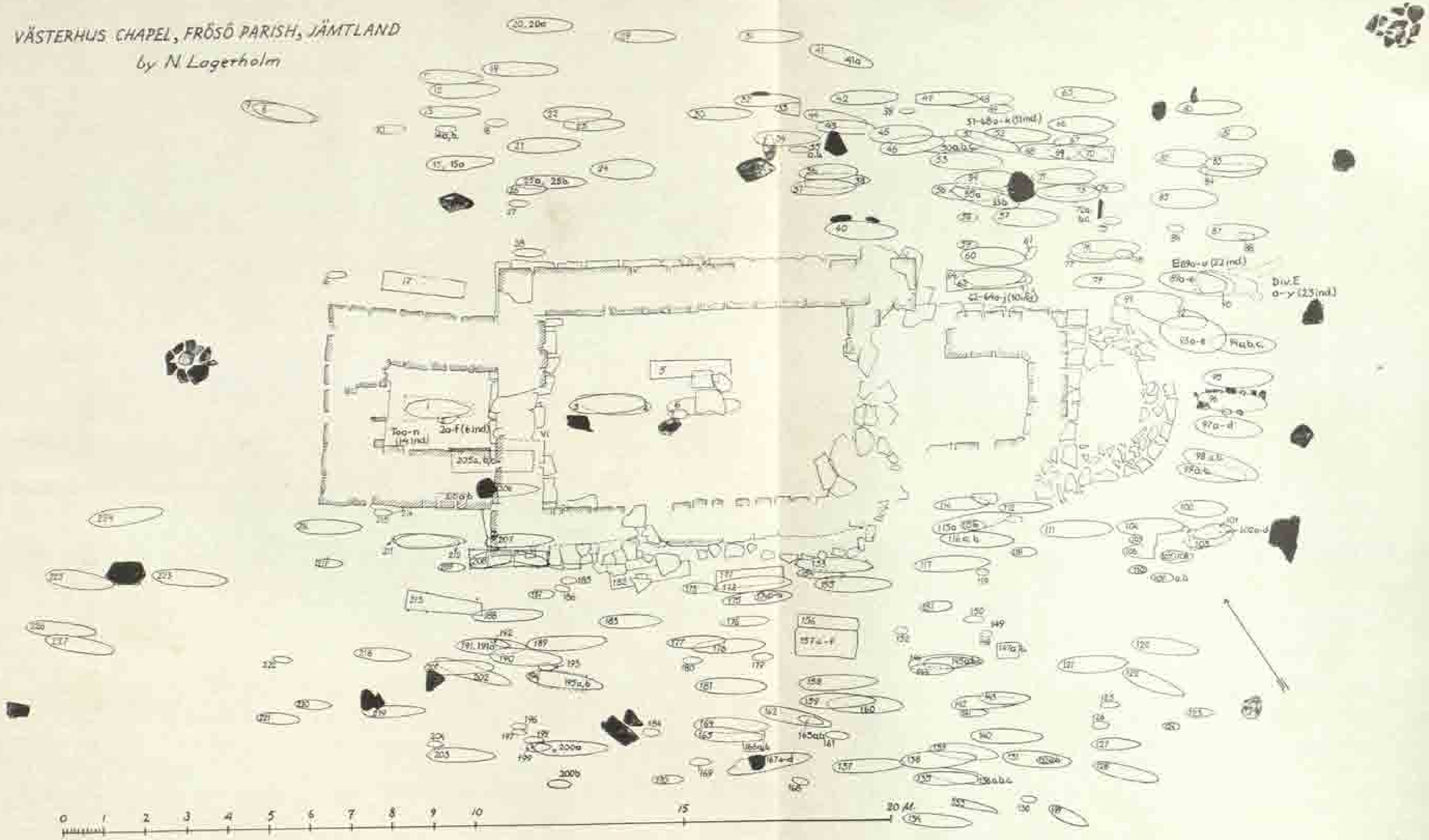
[illegible] · 100	[illegible]		[illegible]		[illegible]		[illegible]		[illegible]		—	
Fem. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tib. 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10b	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fib. 1	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] · 100	[illegible]	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—

VÄSTERHUS CHAPEL, FRÖSÖ PARISH, JÄMTLAND

by N. Lagerholm



WESTERHUS

Errata

p. 27 line 14 delete "of the bones".
„ 49 note 3 "—0.3" read "$\pm$0.3"
„ 54 lines 27 and 31 "ten" read "eleven"
„ 69 line 14 "14" ... "15" read "15" ... "17"
„ 79 „ 22 ff and table 13 "showel-shaped" read "semi-showel-shaped" throughout
„ 84 „ 11 "210" read "201"
„ 84 „ 15 "or" read "of"
„ 89 „ 3 "biotypes" read "biotopes"
„ 95 „ 11 "11" ... "12" read "6" ... "7"
„ 120 „ 38 "Pl. 33" read "Pl. 32"
„ 123 note "chruchyards" read "churchyards"
„ 129 line 28 "was" read "war"
„ 130 „ 5 "shapters" read "chapters"

T 1 Table 1 " 172 116a 12 read " 172 116a 12

T 14 Table 13: correct as follows:

add	discrete trait	No. 1	at indiv:s	No:s 42 and 194;
		No. 3	„ „	No:s 97b, delete at 30 and 98a
delete	„ „	No. 4	„ „	No. 71
„	„ „	No. 6	„ „	No:s 64, 87, 106 and 136a
add	„ „	No. 6	„ „	No:s 8, 63 and 200a.
„	„ „	No. 7	„ „	No:s 56 and 213
delete	„ „	No. 7	„ „	No:s 55a and 80
„	„ „	No. 8	„ „	No. 15
add	„ „	No. 8	„ „	No:s 17, 32, 34, 37, 38, 43, 52, 57, 69, 79, 85, 89d, 93b, 94a, 97a, 97b?, 101, 106, and 98b?, 99a?, 121, 131, 134, 135, 138, 146, 157b, 158?, 160—165, 171, ?, 172, 175, 190, 202, 223
„	„ „	No. 9	„ „	No:s 32, 98a
delete	„ „	No. 9	„ „	No: 31

C 26 indiv. 101, normae occipitalis and lateralis reversed
C 32 „ 120 "K:3" read "K:a3"
C 36 „ 146 "K:a 2—3" read "K:a2+3"
C 38 „ 158 "K:1+3" read "K:a1+3"
C 52 after indiv. 177 insert indiv. 199 on p. C 54
C 53 norma facialis downmost at right belongs to indiv. 199 on p. C 54.

Anthropology — Sweden

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